# Hyper-V/Failover Cluster Configuration

A failover cluster is a group of independent computers that work together to increase the availability of applications and services. The clustered servers (called nodes) are connected by physical cables and by software. If one of the cluster nodes fails, another node begins to provide service (a process known as failover). Users experience a minimum of disruptions in service.

It is recommended deploying a failover cluster on Windows Server 2008 R2 Enterprise or Datacenter editions.

Note that each Hyper-V host cluster can have up to 16 nodes (Host Servers); with each node typically running 10-20 Hyper-V based Virtual Machines (actual number may vary based on host capacity). Note that in LAB environment, a minimal of 2 Node Hyper-V host clusters is required to enable high availability and failover.

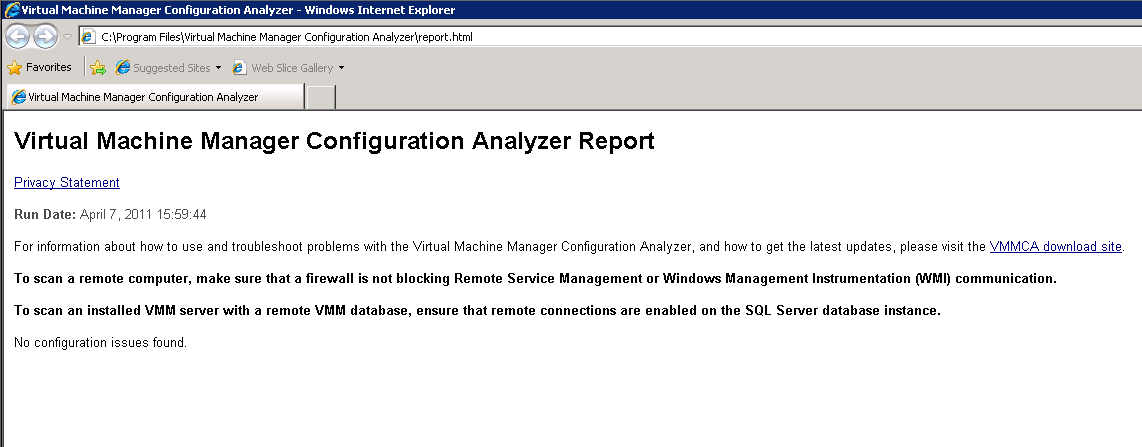
To deploy a Hyper-V cluster on Windows Server 2008 R2, please follow the steps outlined below:

1. Review “*Failover Cluster Step-by-Step Guide: Validating Hardware for a Failover Cluster*” online at TechNet: <http://technet.microsoft.com/en-us/library/cc732035(v=WS.10).aspx>;
2. Review “*Using Cluster Shared Volumes in a Failover Cluster in Windows Server 2008 R2*” online at TechNet: <http://technet.microsoft.com/en-us/library/ff182346(v=WS.10).aspx>;
3. Review “*Understanding Requirements for Failover Clusters*” online at TechNet: <http://technet.microsoft.com/en-us/library/cc771404.aspx>;
4. Follow steps described in “*Hyper-V: Using Hyper-V and Failover Clustering*” online at TechNet to get a Hyper-V failover cluster up and running: <http://technet.microsoft.com/en-us/library/cc732181.aspx>;
5. Ensure you successfully went through Steps 9 and 10 as it is a crucial part of the deployment to confirm the environment and failover clustering feature is configured and functioning as appropriate;

# System Center Virtual Machine Manager 2008 R2 Deployment

Virtual Machine Manager provides scalable infrastructure for managing virtual machines. It integrates with System Center Operations Manager 2007 to enable performance and resource optimization.

We recommend you to use System Center Virtual Machine Manager Configuration Analyzer before starting installation of System Center Virtual Machine Manager to ensure the server’s configuration matches the software requirements. Please use the following link to download the analyzer: <http://www.microsoft.com/downloads/en/details.aspx?FamilyID=02d83950-c03d-454e-803b-96d1c1d5be24&displaylang=en>. After you installed the analyzer, please go ahead and validate the server configuration. The following is a screenshot of sample scan results on the server to ensure the configuration is appropriate and no configuration issues have been found:

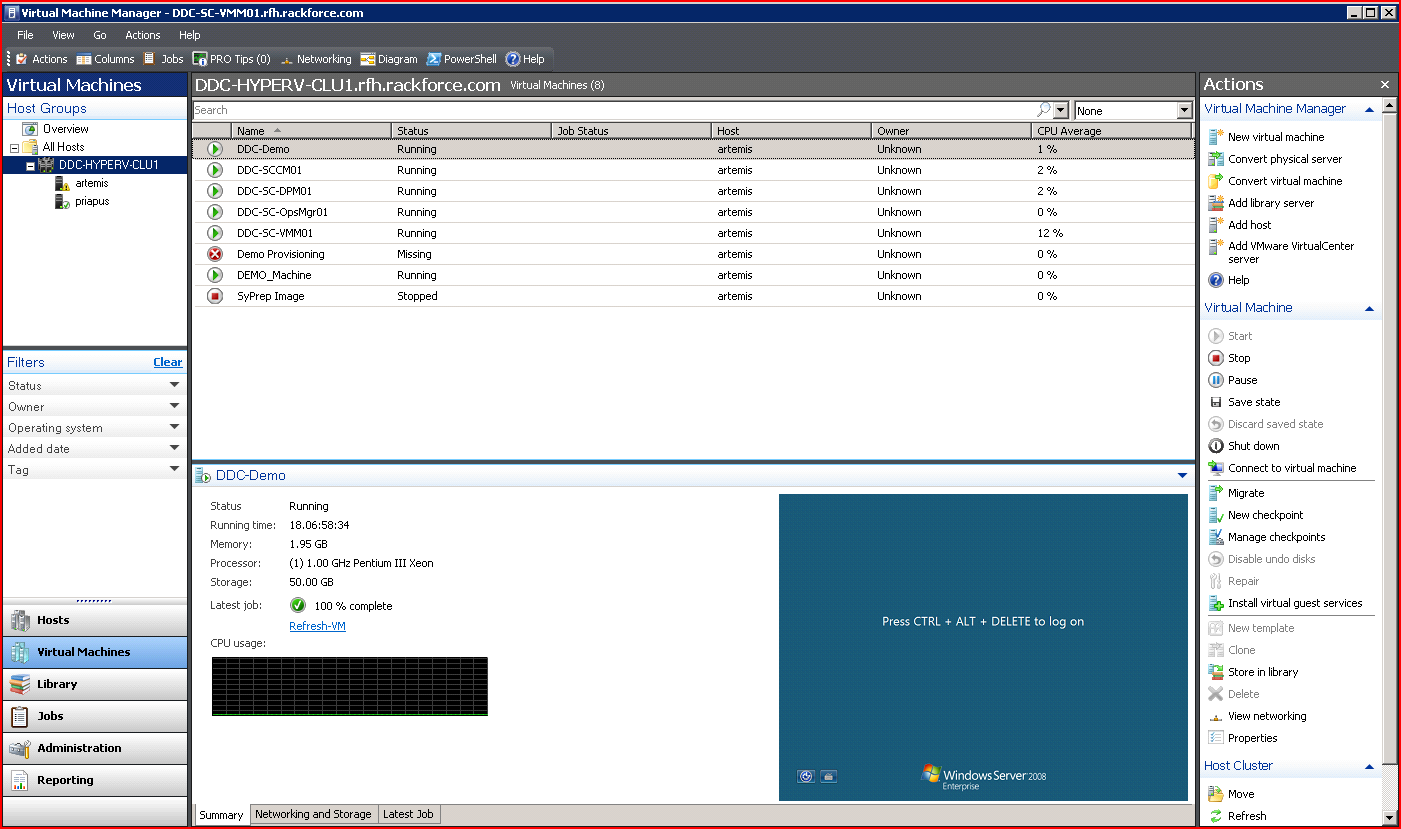


Once the analyzer reported that the server carries all the pre-requisites to install System Center Virtual Machine Manager 2008 R2, please follow the steps outlined below:

1. Review Supported Configurations for Virtual Machine Manager 2008 R2 online at TechNet: <http://technet.microsoft.com/en-us/library/cc764231.aspx>;
2. Review the latest system and software pre-requisites for deploying Virtual Machine Manager 2008 R2 online at TechNet: <http://technet.microsoft.com/library/cc764328.aspx>;
3. Provision a physical or virtual machine to install the Virtual Machine Manager 2008 R2;
4. Install necessary pre-requisites, including any service packs, and any dependent software such as Microsoft SQL Server 2005 w/SP3. Refer to TechNet documentation for installing System Center Virtual Machine Manager 2008 R2 on single server at: <http://technet.microsoft.com/en-us/library/cc764289.aspx>;
5. Install Virtual Machine Virtual Machine Manager per TechNet documentation and “New Installation of VMM” at <http://technet.microsoft.com/en-us/library/cc793149.aspx>;

Once Virtual Machine Manager 2008 R2 is installed, perform the following post-installation tasks to ensure the software is fully operational:

1. Ensure that you can launch the VMM 2008 console as shown in the picture below;
2. Create one or more Host Server Groups;
3. Register either cluster or single Hyper-V host(s) deployed within the environment;
4. Ensure that you can see the virtual machines that are provisioned in the Hyper-V host(s) or cluster registered;
5. Create and configure the library server;
6. Add any VHD’s and ISO images to the library;
7. Create hardware/software templates;
8. Set/configure high availability options for virtual machines;



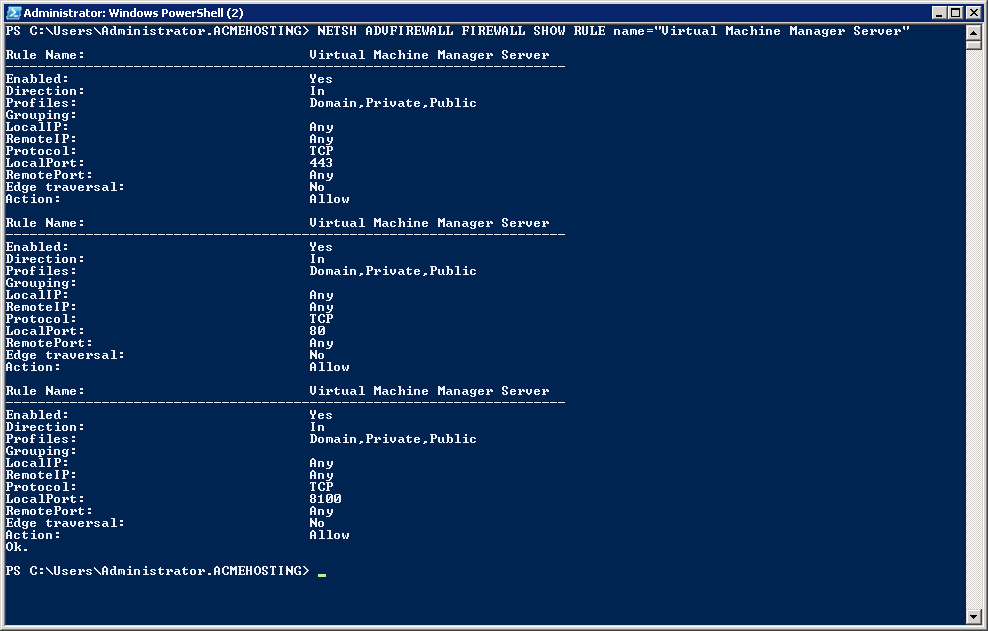
## Validate Windows Firewall Configuration

Please run the following shortcut from PowerShell console to ensure Virtual Machine Manager setup has configured to allow corresponding ports in Windows Firewall.

NETSH ADVFIREWALL FIREWALL SHOW RULE name="Virtual Machine Manager Server"

\* This command lists all rules in Windows Firewall with the name “Virtual Machine Manager Server” if any.

Output for this command should be similar to one that specified below:



List of VMM rules in Windows Firewall

If for some reason these ports were not allowed automatically during the software setup process please refer to System Center Virtual Machine Manager online documentation for the list of ports should be allowed in Windows Firewall to communicate through at TechNet: <http://technet.microsoft.com/en-us/library/cc764268.aspx>.

## Special Note for Clustered Environments

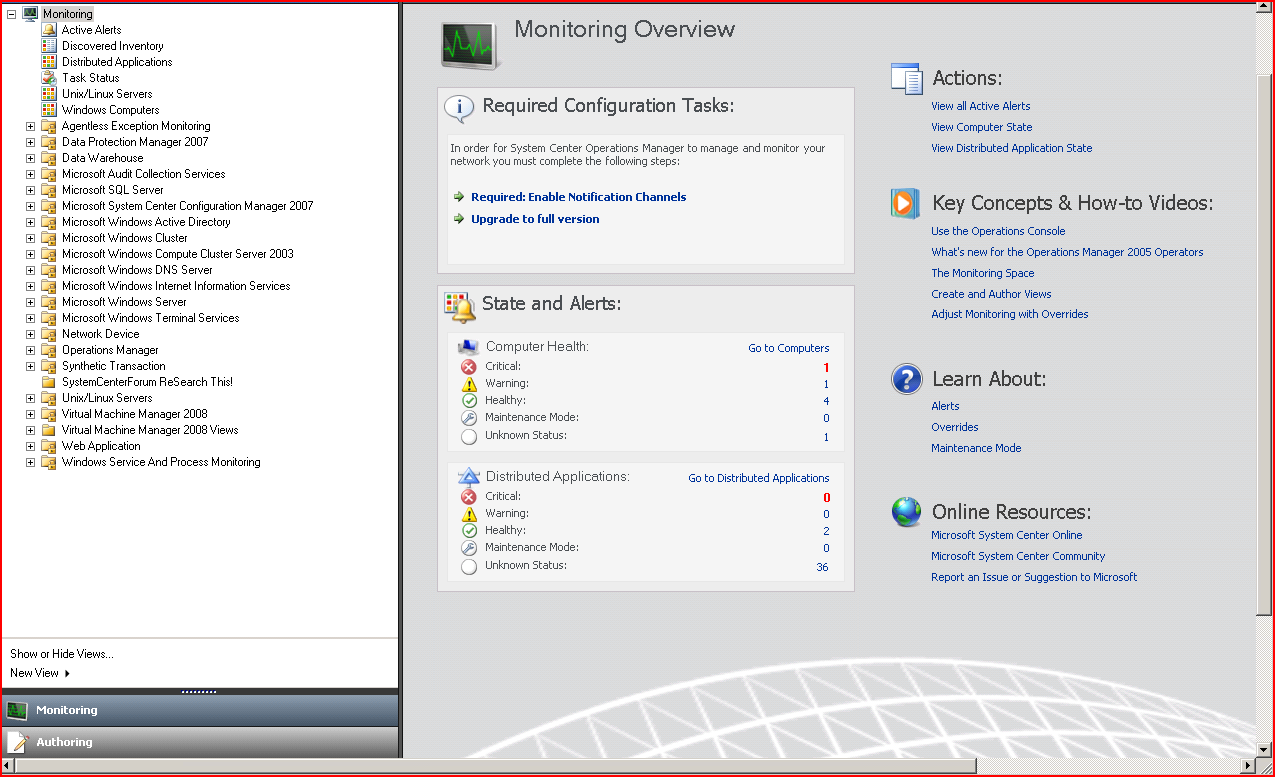
*Add description of what we have discovered with Ryan on VMPaths property configuration while assembling a Hyper-V cluster in Virtual Machine Manager 2008 R2.*

# System Center Operations Manager 2007 R2 Deployment

Operations Manager 2007 R2 is a component of System Center Enterprise, and provides end-to-end service management of applications and IT services running across data center fabric, providing greater control and insight into health and performance of Microsoft, UNIX, and Linux servers, and the workloads running on them. For an overview of Systems Center Operations Manager 2007, please refer to the site: <http://www.microsoft.com/systemcenter/en/us/default.aspx>.

To install System Center Operations Manager 2007 R2 in DDC Environment, please proceed with the following steps:

1. Review “*Getting Started with Operations Manager 2007 R2*” online at TechNet: <http://technet.microsoft.com/en-us/library/dd887701.aspx>;
2. Review “*Operations Manager 2007 R2 Design Guide*” online at TechNet: <http://technet.microsoft.com/en-us/library/dd789005.aspx>;
3. Review Infrastructure Planning and Deployment (IPD) guide online at TechNet: <http://technet.microsoft.com/library/ee354213.aspx>;
4. Determine the specific deployment scenario for installing Operations Manager 2007 R2 by reviewing the TechNet article “*Operations Manager 2007 Deployment Scenarios*” found at: <http://technet.microsoft.com/en-us/library/bb432145.aspx>;
5. Review the pre-requisites for deploying Operations Manager 2007 R2 online at TechNet: <http://technet.microsoft.com/en-us/library/bb432131.aspx>;
6. If needed, provision a physical or virtual machine needed for installing the Operations Manager 2007 R2 (for instance, DDC-SC-OM01);
7. Install necessary Operations Manager 2007 R2 pre-requisites, including any service packs, and any dependent software such as Microsoft SQL Server 2005 w/SP3, and SQL Reporting Services. Refer to TechNet documentation “*Deploying the Single Server, Single Management Server Scenario*” at <http://technet.microsoft.com/en-us/library/bb432146.aspx>;
8. Once System Center Operations Manager 2007 R2 is installed, verify that you can launch the Administrative Console as shown in the picture below;
9. Follow post-installation configuration steps as detailed below;



## Validate/Adjust Windows Firewall Configuration

Please run the following shortcuts from the elevated command-line on the server (ACME-SCOM01 as per sample diagram) to allow certain ports on the server to communicate through in Windows Firewall in order to be able to connect System Center Operations Manager Administrator console to connect to the management server.

NETSH FIREWALL ADD PORTOPENING protocol=UDP port=1434 name="Root management server" mode=ENABLE profile=DOMAIN

\* This command allows 1434 UDP port in Windows Firewall

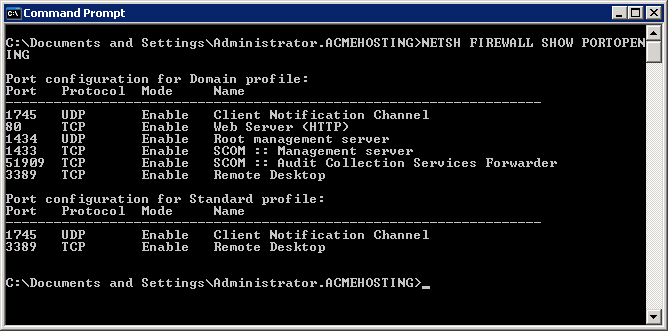
NETSH FIREWALL ADD PORTOPENING protocol=TCP port=1433 name="SCOM :: Management server" mode=ENABLE profile=DOMAIN

\* This command allows 1433 TCP port in Windows Firewall

NETSH FIREWALL ADD PORTOPENING protocol=TCP port=51909 name="SCOM :: Audit Collection Services Forwarder" mode=ENABLE profile=DOMAIN

\* This command allows 51909 TCP port in Windows Firewall

This is an output from the command-line on Operations Manager management server (ACME-SCOM01 as per sample diagram) when System Center Operations Manager is allowed to communicate through Windows Firewall on the server:



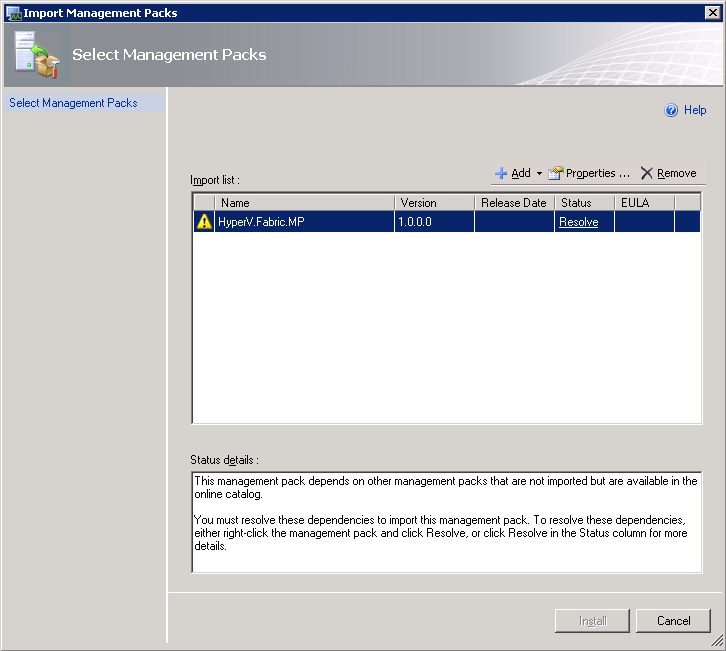
## Operations Manager 2007 R2 Post Installation Steps

Once you have successfully installed Operations Manager 2007 R2, please proceed with the following post-installation steps:

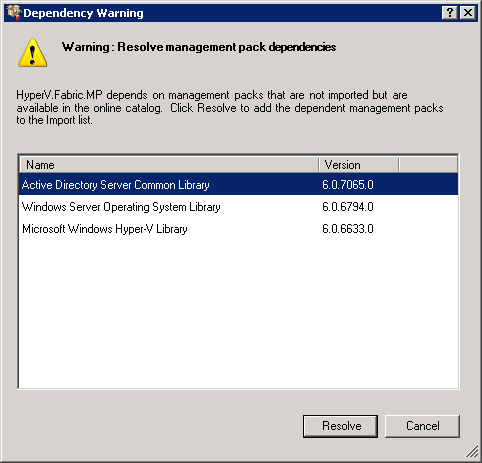
1. Review the online documentation on “*Configuring Operations Manager 2007 R2*” online at TechNet: <http://technet.microsoft.com/en-us/library/cc540365.aspx>;
2. Install and deploy operations management agents on each computer and device being managed;
3. Install Operations Manager 2007 R2 Management Packs. Management packs help manage the health of specific objects and components. Please refer to the Operations Manager software catalog at <http://technet.microsoft.com/en-us/opsmgr/cc539535.aspx> for list of the management packs for Operations Manager available for download. The following Management Packs are highly recommended:
   1. Windows Server 2008 (Windows Server)
   2. Hyper-V
   3. DPM 2007
   4. Configuration Manager 2007
   5. Operations Manager management pack
   6. SQL Server
   7. Internet Information Services (IIS) Manager
4. Ensure PRO Functionality by installing pre-requisite components on Virtual Machine Manager 2008 R2 and Operations Manager 2007 R2 servers;
5. Set up monitoring of computers and devices;
6. Set up alerts and tasks;
7. Create views;
8. Author management packs as needed;

# Configure Dynamic Data Center Toolkit v3.0 to Integrate with Operations Manager 2007 R2

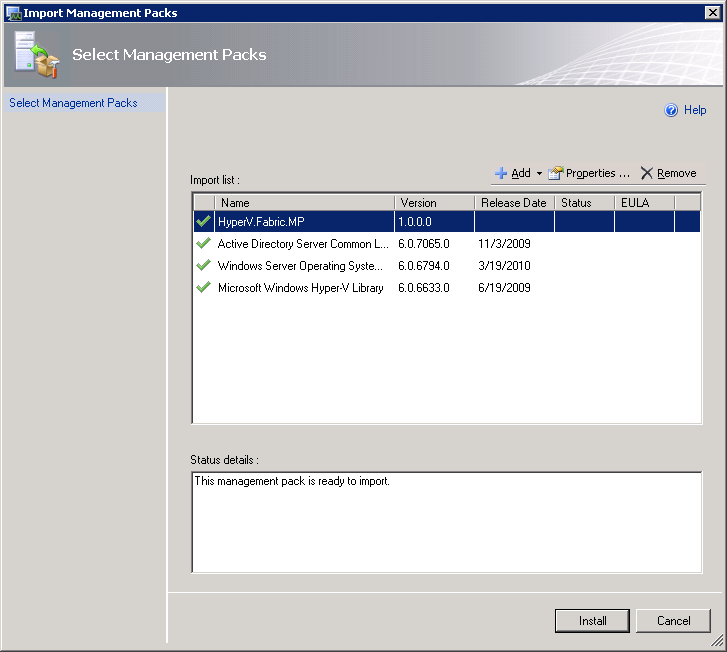
Please import DDTK HyperV Fabric Management Pack via System Center Operations Manager 2007 Administrator Console by using Import Management Pack (from disk) operation to automatically download from the online catalog all the dependencies that the management pack has. The following screenshots will help you to go through the wizard to establish all the dependencies that the management pack has…



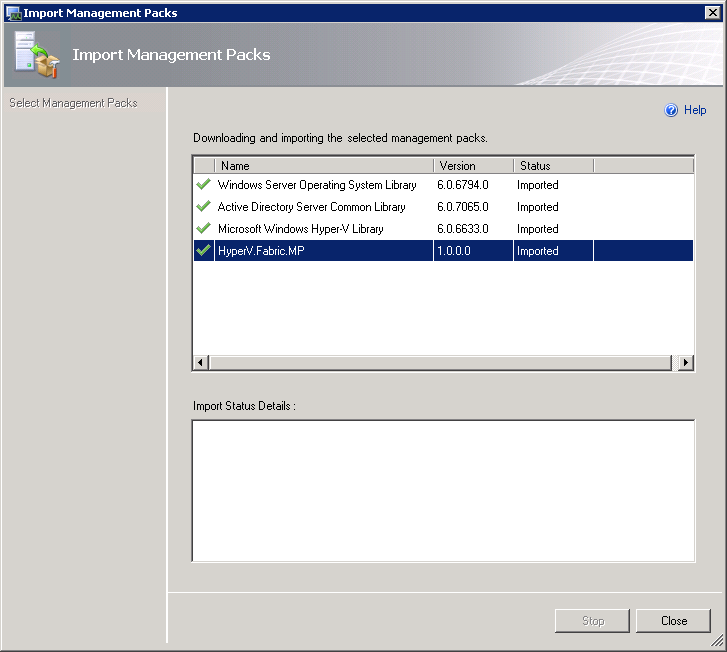
Click “Resolve” hyperlink to resolve the issue of missing dependencies.



Then click “Resolve” button for confirmation to resolve the issue automatically.



Then click “Install” button.



Once all the dependent MPs have been downloaded and installed along with Hyper-V Fabric MP you are good to go with...

*\* Management Packs to install from the online catalog if Hyper-V Fabric Management Pack required dependencies has failed to download or install automatically:*

* *Active Directory Server Common Library*
* *Windows Server 2008 Operating System*
* *Microsoft Windows Hyper-V 2008*
* *SQL Server 2005*
* *SQL Server 2008*
* *Microsoft System Center Configuration Manager 2007*
* *Windows Server Internet Information Services Library*
* *Windows Server 2008 Internet Information Services 7*
* *Microsoft.Windows.SystemCenterDPM*
* *Operational Data Reporting Management Pack*
* *System Center Core Monitoring*
* *System Center Core Monitoring Agent Management*
* *System Center Core Monitoring Reports*
* *System Center Core Monitoring Views*
* *Microsoft Windows Hyper-V Library*
* *Microsoft Windows Hyper-V 2008 Discovery*

# Setup Server and Devices Monitoring in System Center Operations Manager 2007

To be able to monitor the environment effectively you should perform some additional steps to connect Hyper-V hosts with Operations Manager 2007 and start receiving performance data for monitoring purposes. The following screenshots outline a workflow we used to enable monitoring on a Hyper-V host in our demo environment, so you can either follow the steps outlined below if you have a small environment or configure advanced discovery options so Operations Manager 2007 is able to discover and connect new hosts as they appear in the network.

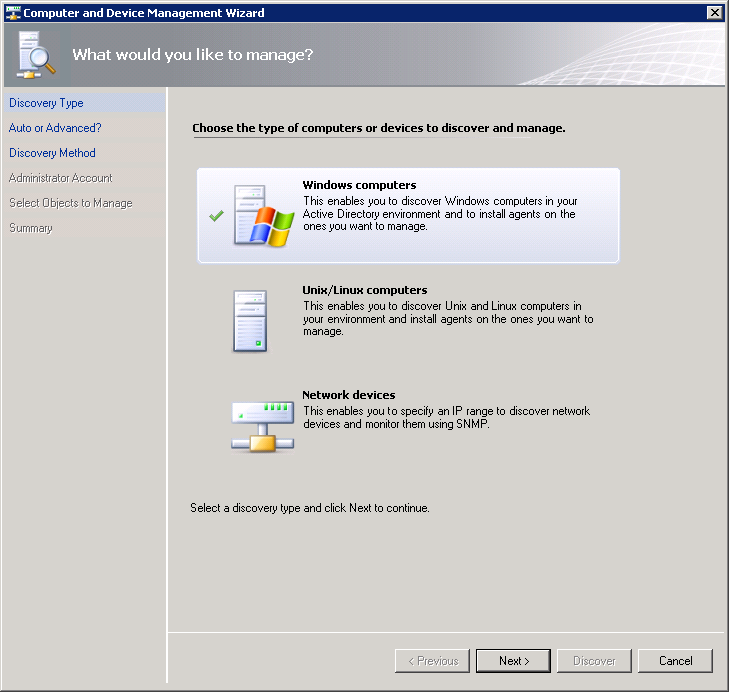


Figure 1. Configure computers and devices to manage

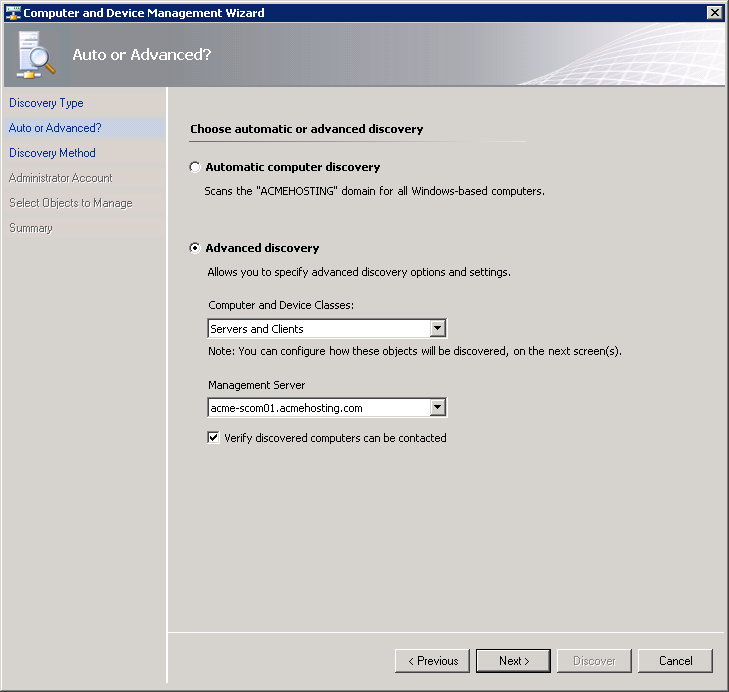


Figure 2. Choose discovery options

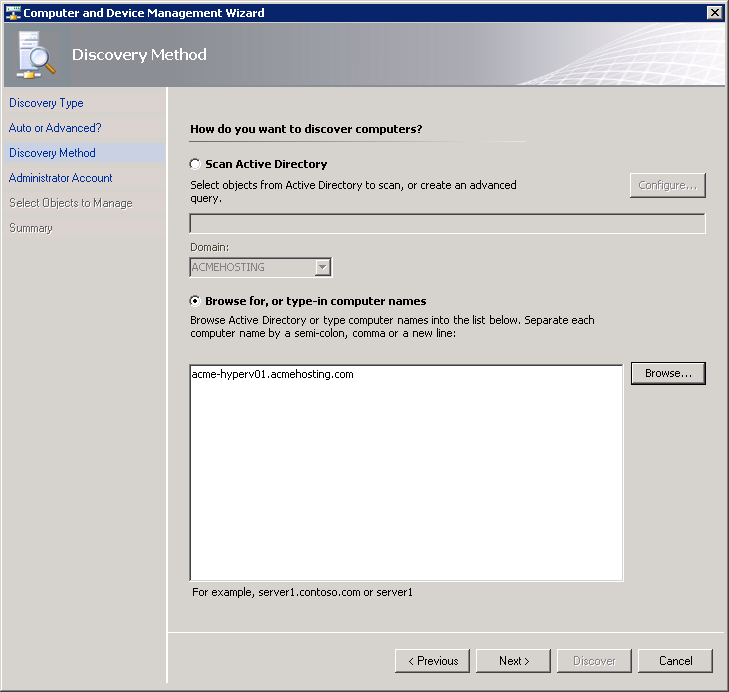


Figure 3. Choose a server to manage

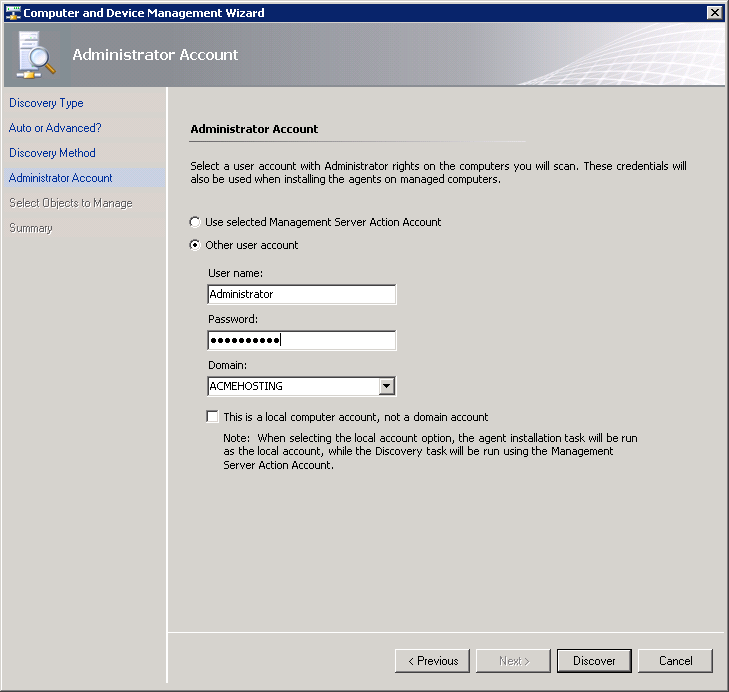


Figure 4. Specify discovery process options

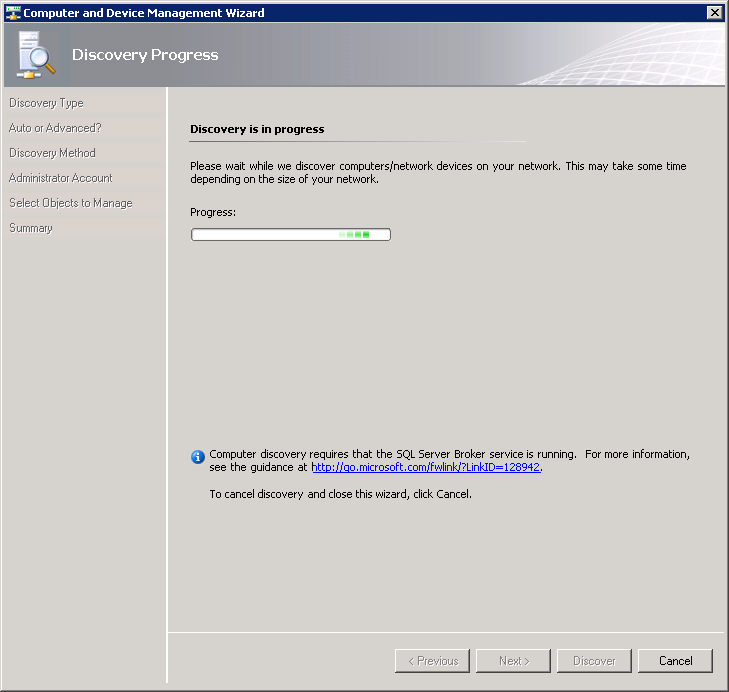


Figure 5. Discovery process

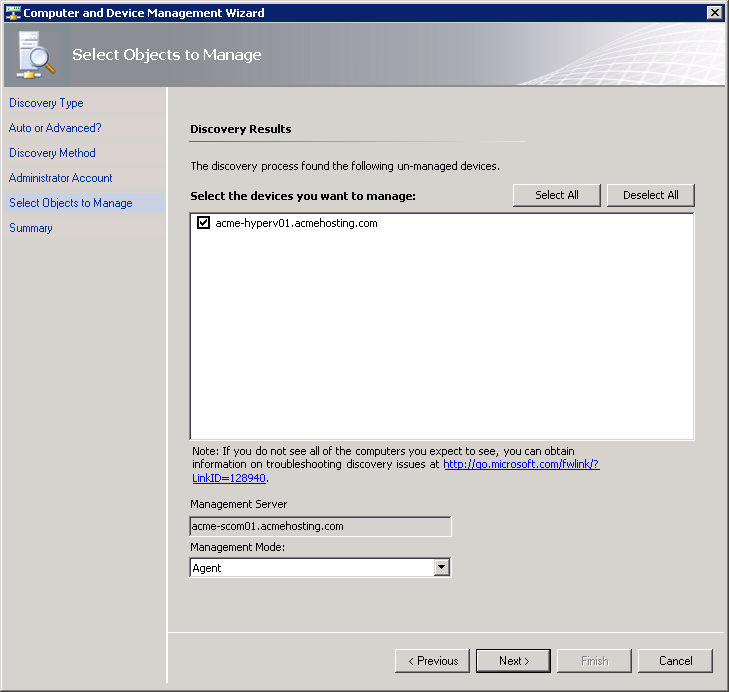


Figure 6. Review devices discovery results

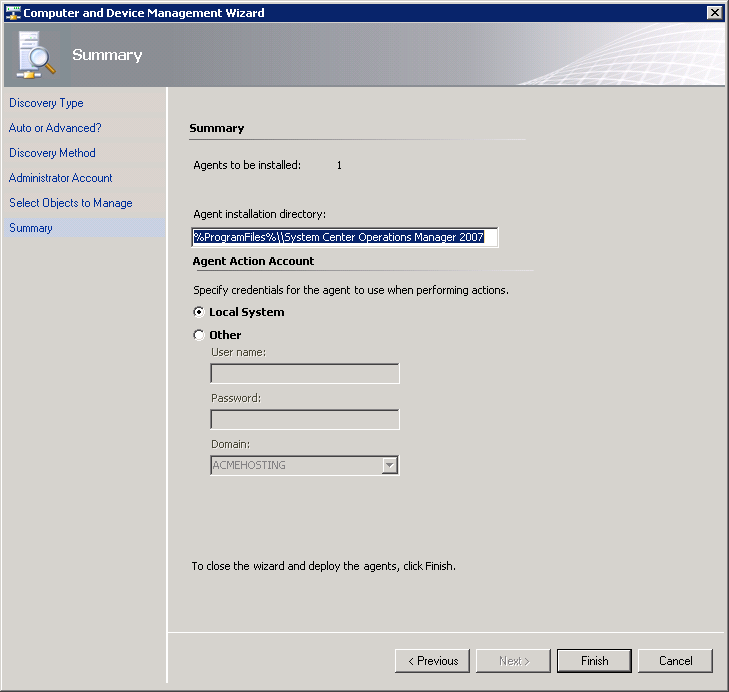


Figure 7. Specify management agent installation options

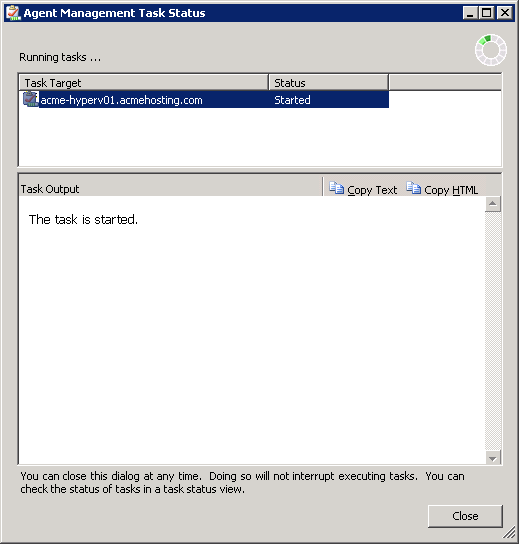


Figure 8. Management agent installation progress

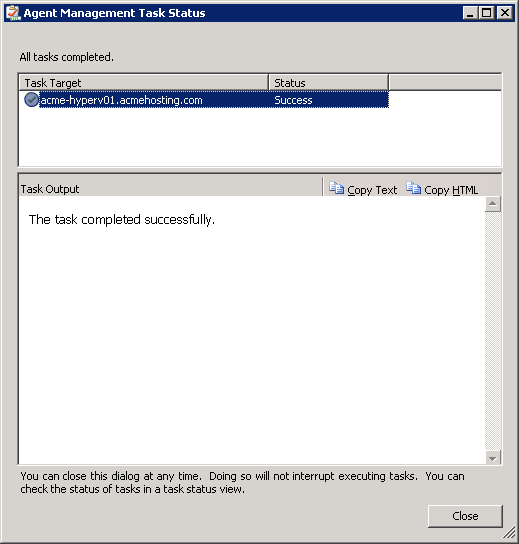


Figure 9. Management agent installation summary

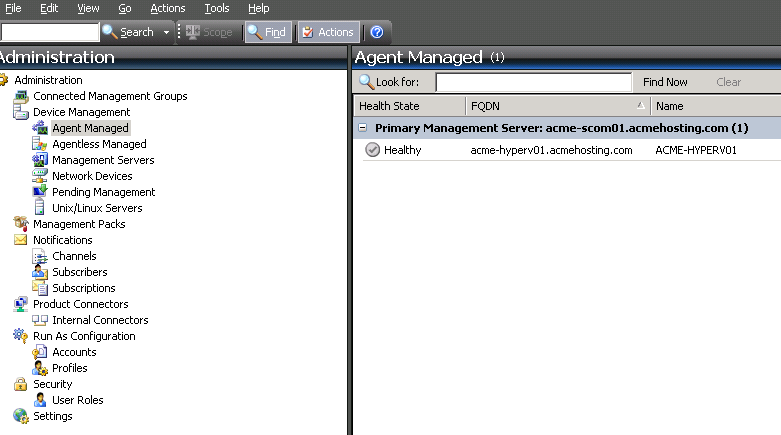


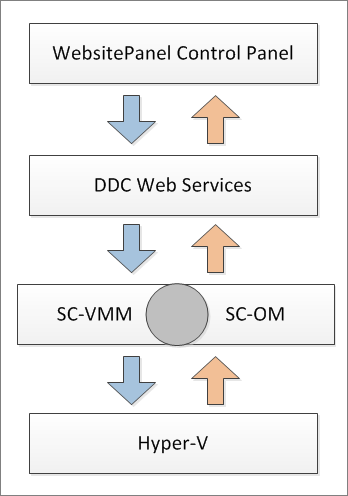
Figure 10. Review managed inventory updates

# Dynamic Data Center Toolkit 3.0 Components Deployment

The Dynamic Data Center Toolkit consists of software (web services) and a sample control panel application. The DDC Toolkit also contains documents outlining best practices for the creation and configuration of Dynamic Data Centers to meet the needs of the provider’s customers using proven technology and repeatable, documented process.

Note that all sample code is located at <http://code.msdn.microsoft.com/ddc>

The figure below illustrates how the DDC Toolkit exposes management functionality by providing a layer on top of the Microsoft Platform.



We recommend installing each service component from Dynamic Data Center Toolkit on a server that is running corresponding software either System Center Virtual Machine Manager 2008 R2 or System Center Operations Manager 2007 R2.

The following are pre-requisites for installing the services layer:

1. Installed IIS 6.0 Compatibility feature on IIS 7/7.5;
2. Enabled WCF Activation feature;
3. Installed Microsoft .NET Framework 4.0 Full distributive;
4. Created an IIS Application Pool for each WCF Service.
5. Created a domain account for running each service with all necessary privileges granted to each of these accounts (please follow carefully corresponding guidelines).
6. Admin rights on the server to install the service.
7. Once the services are installed, verify that each of the services is running by invoking the corresponding WSDL in web browser: http://<SCVMM Service>/

Please find below description of all pre-deployment steps required to configure corresponding service accounts and permissions to run SCVMMService and SCOMService (MonitoringWebService) web applications from DDTK, as well as the corresponding guidelines for an every step.

## Adjust Web Server Configuration

You need to open PowerShell console on the web server (ACME-WEB01 as per sample deployment diagram) and follow the scenario below to run the shortcuts specified below to either adjust web server configuration or setup it up with the required features enabled:

*Import-Module ServerManager*

\* This imports Server Manager cmdlets to the current user session (domain administrator).

Add-WindowsFeature –Name NET-Framework –IncludeAllSubFeature

\* This command runs installation of .NET Framework 3.5 and WCF Activation that is a required pre-requisite to host and run DDTK components.

Add-WindowsFeature –Name Web-Server,Web-WebServer,Web-Common-Http,Web-Static-Content,Web-Default-Doc,Web-Dir-Browsing,Web-Http-Errors,Web-App-Dev,Web-Asp-Net,Web-Net-Ext,Web-ASP,Web-CGI,Web-ISAPI-Ext,Web-ISAPI-Filter,Web-Includes,Web-Health,Web-Http-Logging,Web-Log-Libraries,Web-Request-Monitor,Web-Http-Tracing,Web-Security,Web-Basic-Auth,Web-Windows-Auth,Web-Filtering,Web-Performance,Web-Stat-Compression,Web-Mgmt-Tools,Web-Mgmt-Console,Web-Scripting-Tools,Web-Mgmt-Service,Web-Mgmt-Compat,Web-Metabase,Web-WMI,Web-Lgcy-Scripting,Web-Lgcy-Mgmt-Console

\* Either adjusts Web Server Role features list enabled or installs Web Server Role and enables all the required features.

## Setup Service Accounts

Run the following shortcuts from the command-line on the domain controller (ACME-DC01 as per sample deployment diagram) server to create corresponding service accounts what will be used later to run the apps.

NET USER SCVMMService \* /DOMAIN /ADD /ACTIVE:YES /EXPIRES:NEVER /PASSWORDCHG:NO /PASSWORDREQ:YES

\* You will be prompted to enter a password and confirmation for SCVMMService user account. Please remember or better write down the password you specified for the account.

*NET USER SCOMService \* /DOMAIN /ADD /ACTIVE:YES /EXPIRES:NEVER /PASSWORDCHG:NO /PASSWORDREQ:YES*

\* You will be prompted to enter a password and confirmation for SCOMService user account. Please remember or better write down the password you specified.

NET GROUP “Domain Admins” SCVMMService /ADD /DOMAIN

\* This command adds SCVMMService to Domain Admins group which membership is required for DDTK components to be run properly.

*NET GROUP “Domain Admins” SCOMService /ADD /DOMAIN*

\* This command adds SCOMService to Domain Admins group which membership is required for DDTK components to be run properly.

## Configure Service Account Permissions in Virtual Machine Manager

Please run the following shortcut from the Virtual Machine Manager PowerShell console on the web server (ACME-WEB01 as per sample diagram) to grant SCVMMService service account administrative privileges in System Center Virtual Machine Manager:

Get-VMMUserRole | Where { $\_.Profile –eq "Administrator" } | Set-VMMUserRole -AddMember acmehosting.com\SCVMMService

Below a screenshot of sample “Get-VMMUserRole” cmdlet output after the service account has been granted Administrator privileges:

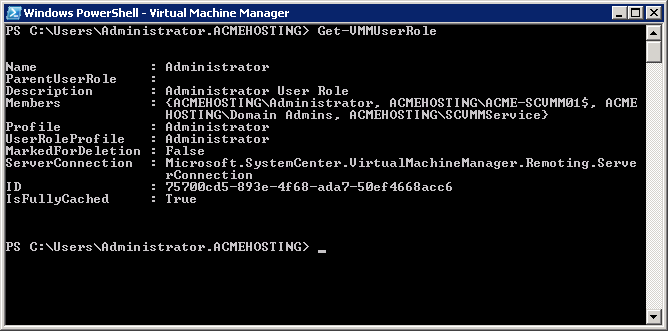


Figure 11. Output of Administrator group membership

## Configure Service Account Permissions in Operations Manager

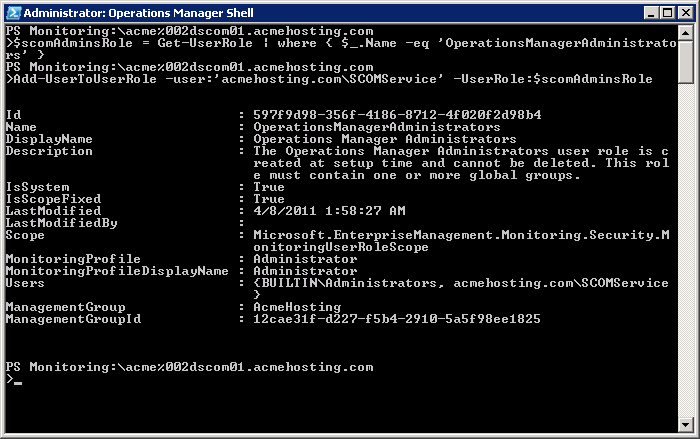
Please run the following shortcut from the Operations Manager Shell console on the web server (ACME-WEB01 as per sample diagram) or on a server where Operations Manager Shell is installed:

$scomAdminsRole = Get-UserRole | where { $\_.Name -eq 'OperationsManagerAdministrators' }

Add-UserToUserRole -user:'acmehosting.com\SCOMService' -UserRole:$scomAdminsRole

\* These two are separate cmdlets you should run in the single Operations Manager Shell session for both to succeed.

Below is a sample output of executing aforementioned cmdlets in Operation Manager Shell:



## Configure Service Accounts Permissions on Web Server

We should add both service accounts SCVMMService and SCOMService created earlier to local IIS\_IUSRS group on the web server (ACME-WEB01 as per sample deployment diagram) to grant these accounts permissions required run ASP.NET applications locally. So, please run the following shortcuts from the elevated command-line on the web server:

NET LOCALGROUP "IIS\_IUSRS" acmehosting.com\SCVMMService /ADD

\* Adds SCVMMService user account to local IIS\_IUSRS group.

NET LOCALGROUP "IIS\_IUSRS" acmehosting.com\SCOMService /ADD

\* Adds SCOMService user account to local IIS\_IUSRS group.

## Setup Web Application Pools

Next, we need to create two application pools to be able to run SCVMMService and MonitoringWebService web apps. Run the following shortcuts from the elevated command-line on the web server (ACME-WEB01 as per sample deployment diagram):

"%WINDIR%\System32\inetsrv\appcmd.exe" ADD APPPOOL /name:scvmmweb -managedRuntimeVersion:v4.0 -managedPipelineMode:Integrated -processModel.identityType:SpecificUser -processModel.userName:acmehosting.com\SCVMMService -processModel.password:P@ssw0rd12!

\* Creates “scvmmweb” application pool on the web server to run SCVMMService web application.

"%WINDIR%\System32\inetsrv\appcmd.exe" ADD APPPOOL /name:scomweb -managedRuntimeVersion:v4.0 -managedPipelineMode:Integrated -processModel.identityType:SpecificUser -processModel.userName:acmehosting.com\SCOMService -processModel.password:P@ssw0rd12!

\* Creates “scomweb” application pool on the web server to run MonitoringService web application.

## DDTK Components Installation

There are two components from DDTK suite we should install on the web server’s side (ACME-WEB01 as per sample deployment diagram) to be able to connect System Center Virtual Machine Manager and System Center Operations Manager with WebsitePanel to make Hyper-V for Private Cloud module work.

### Install SCVMMService Component

The first component we are going to install is SCVMMService (please run SCVMMServiceSetup.msi installation distributive enclosed). The following screenshots will provide you with steps how to install and configure the software properly.

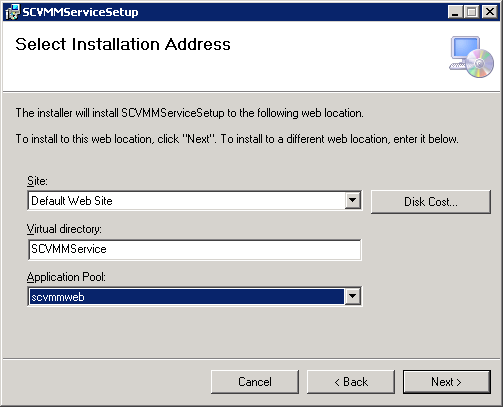


Figure 12. Choosing the component setup options

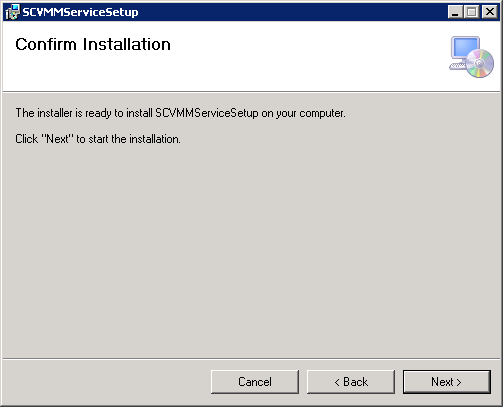


Figure 13. Confirm installation

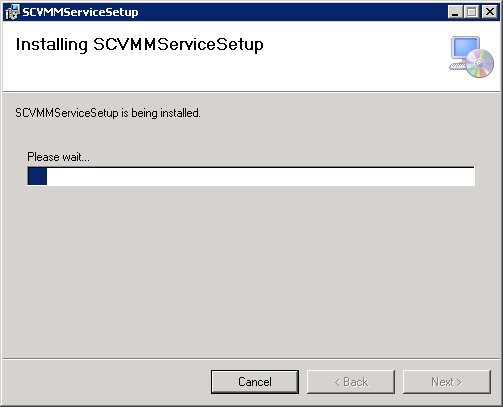


Figure 14. Installing component

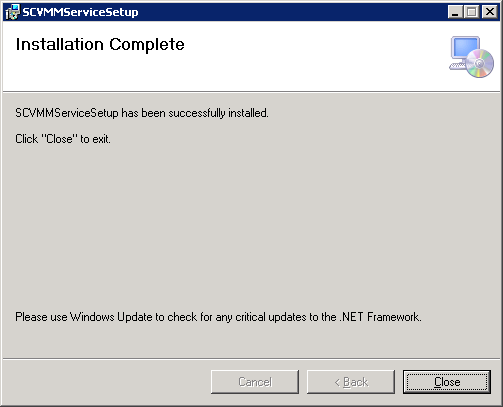


Figure 15. Installation complete

### Post-Installation SCVMMService Component Configuration

Please run the following shortcuts from the elevated command-line on the web server (ACME-WEB01 as per sample diagram) to adjust the settings of SCVMMService web app (in Web.config file) to match the actual environment configuration.

"%WINDIR%\System32\inetsrv\appcmd.exe" SET CONFIG "Default Web Site/SCVMMService" /section:appSettings /[key='DomainSecurityGroup'].value:"acmehosting.com\Domain Admins"

\* We recommend to allow only accounts from Domain Admins group to interact with the service endpoint.

"%WINDIR%\System32\inetsrv\appcmd.exe" SET CONFIG "Default Web Site/SCVMMService" /section:appSettings /[key='SCVMMServerName'].value:"acme-scvmm01"

\* Adjusts System Center Virtual Machine Manager server name as appropriate.

"%WINDIR%\System32\inetsrv\appcmd.exe" SET CONFIG "Default Web Site/SCVMMService" /section:appSettings /[key='SCVMMServerPort'].value:"8100"

\* Adjusts a port number to be used to connect to the System Center Virtual Machine Manager server.

### Install SCOMService Component

Second component we are going to install is SCOMService (please run SCOMSvcSetup.msi installation distributive enclosed). The following screenshots will provide you with steps how to install and configure the software properly.

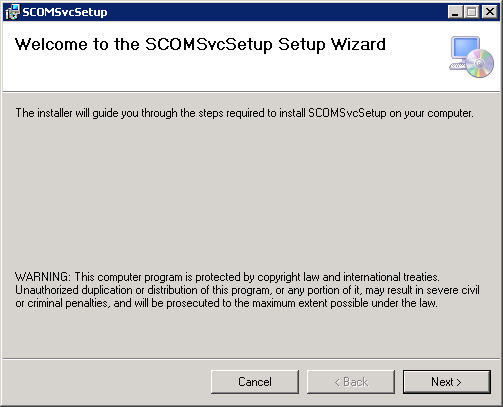


Figure 16. Initial setup screen

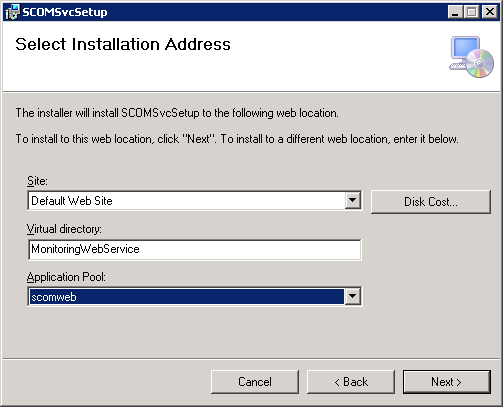


Figure 17. Choosing the component setup options

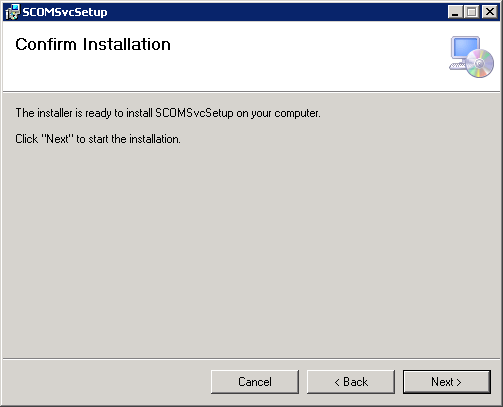


Figure 18. Confirm installation

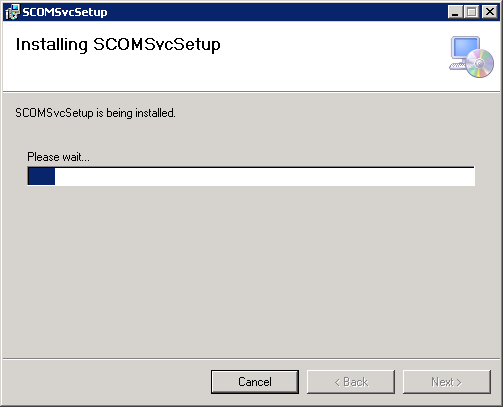


Figure 19. Installing component

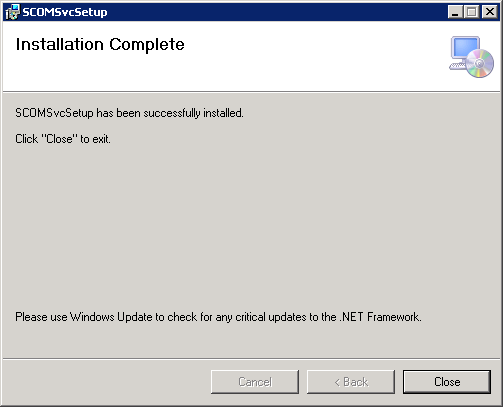


Figure 20. Installation complete

### Post-Installation SCOMService Component Configuration

Please run the following shortcut from the elevated command-line on the web server (ACME-WEB01 as per sample diagram) to adjust the settings of MonitoringWebService (SCOMService) web app (in Web.config)

"%WINDIR%\System32\inetsrv\appcmd.exe" SET CONFIG "Default Web Site/MonitoringWebService" /section:appSettings /[key='DomainSecurityGroup'].value:"acmehosting.com\Domain Admins"

\* We recommend to allow only accounts from Domain Admins group to interact with the service endpoint.

### Validate Service Endpoints Installation

To validate both service endpoints installed as per instructions above you should open Internet Information Services Manager console and try to browse in Content View mode both “Default Web Site/SCVMMService/VirtualMachineManagementService.svc” and “Default Web Site/MonitoringWebService/MonitoringService.svc” virtual directories. Please find corresponding screenshots below for your convenience.

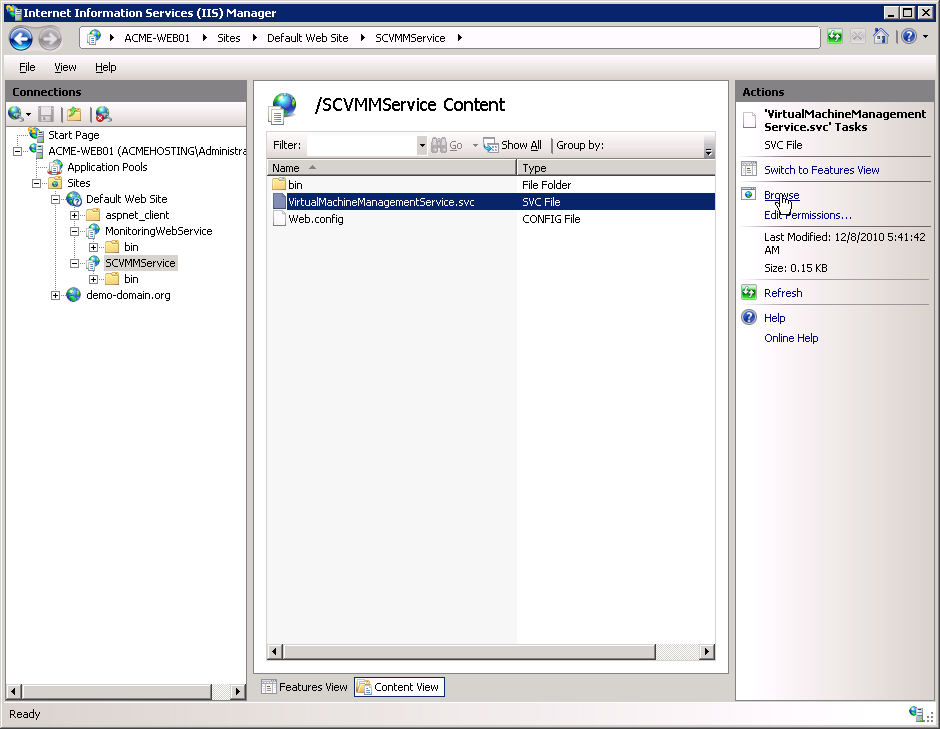


Figure 21. Browse SCVMMService web app

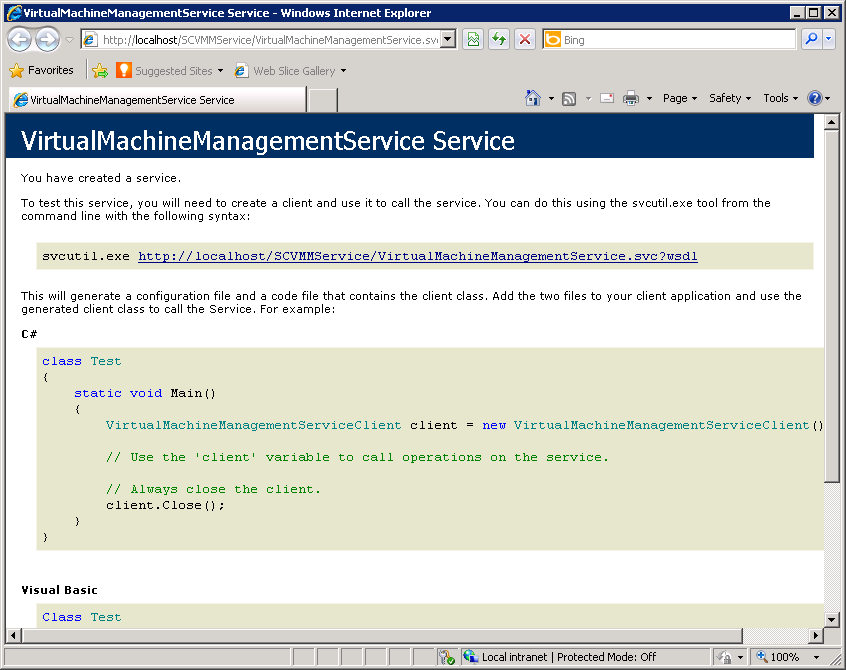


Figure 22. Output of properly configured SCVMMService .svc endpoint in the browser

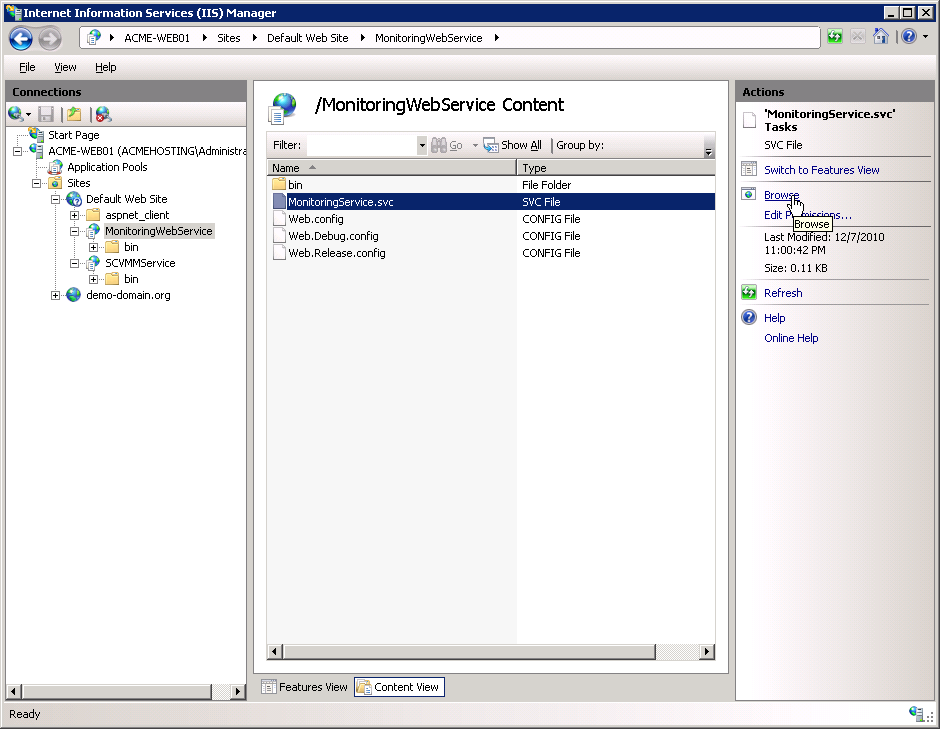


Figure 23. Browse SCOMService web app

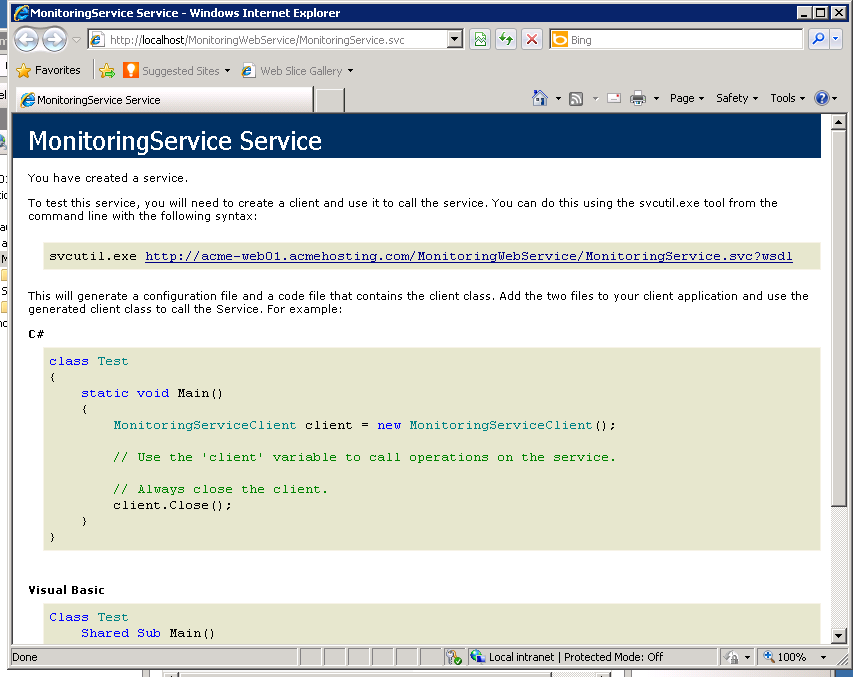


Figure 24. Output of properly configured SCOMService .svc endpoint

# WebsitePanel Configuration & Deployment

WebsitePanel is an easy to use control panel for Windows hosting. It allows you to manage multiple servers; it has a robust, scalable and secure architecture. With WebsitePanel you can easily manage all your web sites, FTP accounts, databases and other resources from a single place.

To start with WebsitePanel installation, please follow the steps outlined below:

1. Review “*WebsitePanel: Getting Started – System Requirements*” guide online at: <http://www.websitepanel.net/installation-guide/system-requirements>;
2. Review “*WebsitePanel: Getting Started – How WebsitePanel Works*” guide online at: <http://www.websitepanel.net/installation-guide/how-does-websitepanel-work>;
3. Review “*WebsitePanel: Getting Started – Preparing Server for the Installation of WebsitePanel Components*” guide online at: <http://www.websitepanel.net/installation-guide/preparing-server-for-the-installation>;
4. *\*\*\* We recommend to create a deployment diagram of your planned environment either lab or production one to note all the important settings or information during the environment components deployment procedure. This practice streamlines the procedure and later you will be able easily recover any information on your deployment very quickly*;
5. Review “*WebsitePanel: WebsitePanel Installer – WebsitePanel Installer*” guide online at: <http://www.websitepanel.net/installation-guide/websitepanel-installer>;
6. Review “*WebsitePanel: WebsitePanel Installer – Installing WebsitePanel Components One-by-One*” guide online at: <http://www.websitepanel.net/installation-guide/installing-websitepanel-components>;
7. Review “*WebsitePanel: WebsitePanel Installer – Configuring WebsitePanel Components*” guide if there is a need to adjust a component’s configuration at: <http://www.websitepanel.net/installation-guide/configuring-websitepanel-components>;

## WebsitePanel Installer Deployment and Configuration

This guide describes a process of installing WebsitePanel components on a single web server (ACME-WEB01 as per sample diagram) and provides a set of corresponding screenshots for an every component installation.

If you have not yet downloaded and installed WebsitePanel Installer, please use the following link to install the latest one: <http://www.websitepanel.net/Files/1.2.0/WebsitePanelInstaller12.msi>. Once you installed the software, please follow the steps outlined below to adjust it accordingly.

You need to adjust WebsitePanel Installer configuration settings to be able download and install the most recent beta build (1.2.0.24). Please open WebsitePanel Installer installation folder and open WebsitePanel.Installer.exe.config file in Notepad to make a few correction in the app configuration. Find “Web.Service” element and change its “value” attribute to the following string:

<http://www.websitepanel.net/Services/InstallerService-Beta.asmx>

Once you are done, save the changes (Ctrl + S) and close the file.

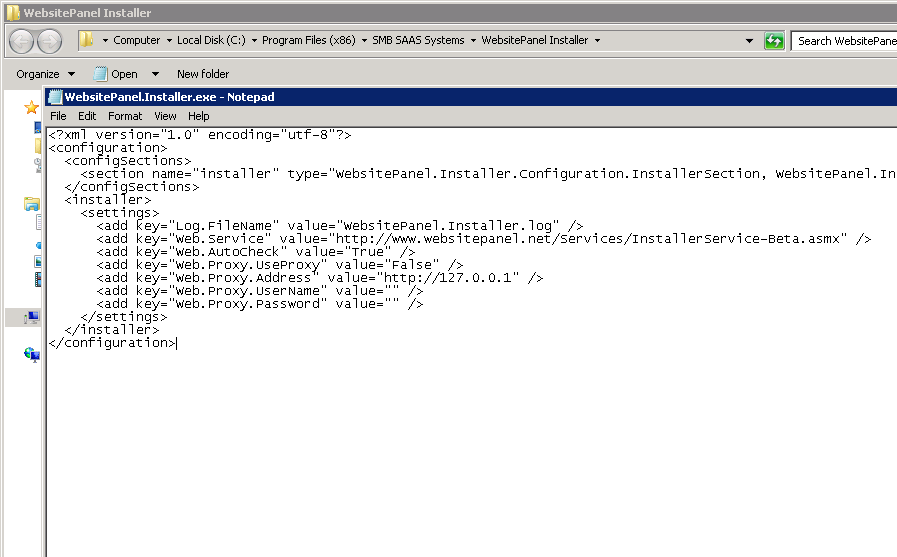


Figure 25. Changes in WebsitePanel.Installer.exe.config

## WebsitePanel Server Installation

Run WebsitePanel Installer if it is not already running and click “Load Available Components” button to see the list of components available to install. Note, that the version number should be 1.2.0.

Click “Install” link on WebsitePanel Server component to load the distributive and begin the installation process:

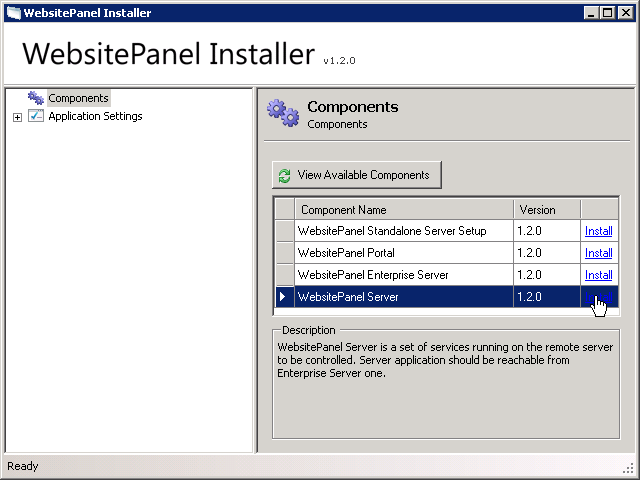


Figure 26. Initiating WebsitePanel Server component installation

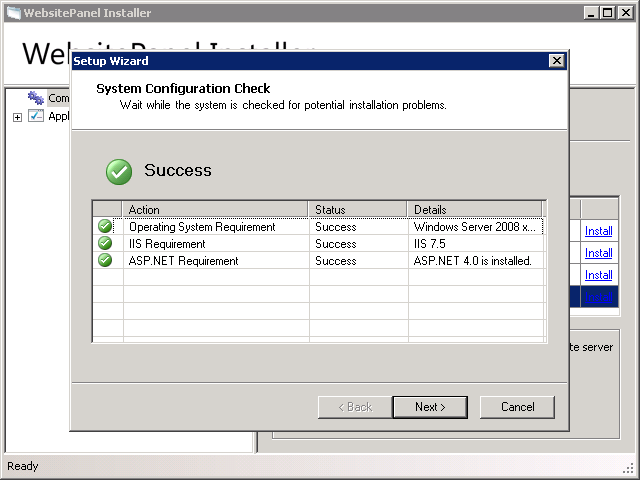


Figure 27. Component pre-requisites validation process

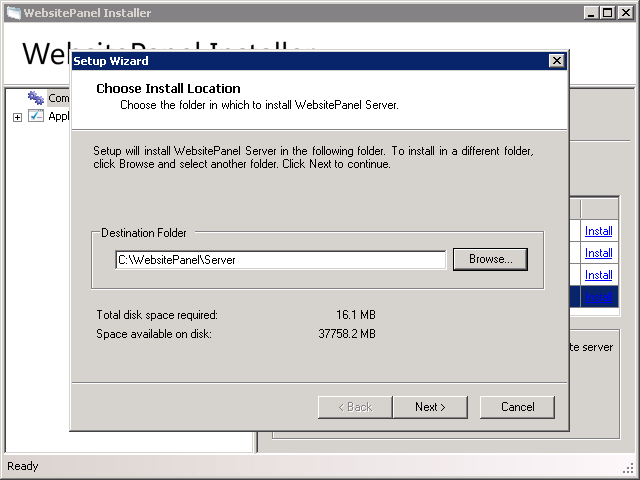


Figure 28. Choosing installation location

\* We recommend to use internal IP for the component installation that allows you to connect the server easily if later you decide to move WebsitePanel Enterprise Server on a standalone server.

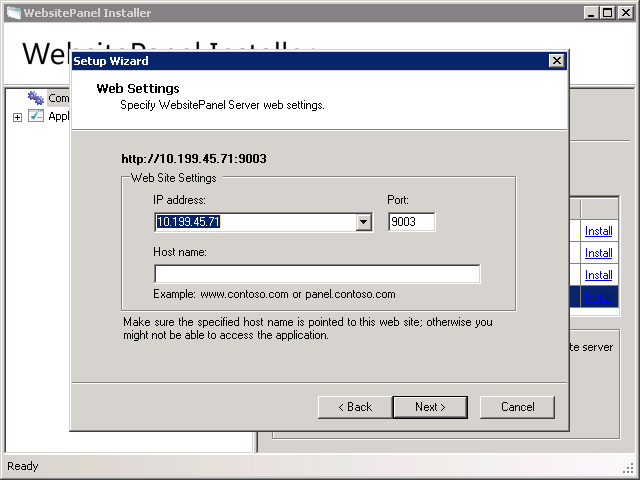


Figure 29. Choosing Web Settings

\* Please use a distinguished name for the component’s service account as the environment might grow in the future and you should avoid interference of service account names. Note, that WebsitePanel Server service account should be a domain account rather than local one.

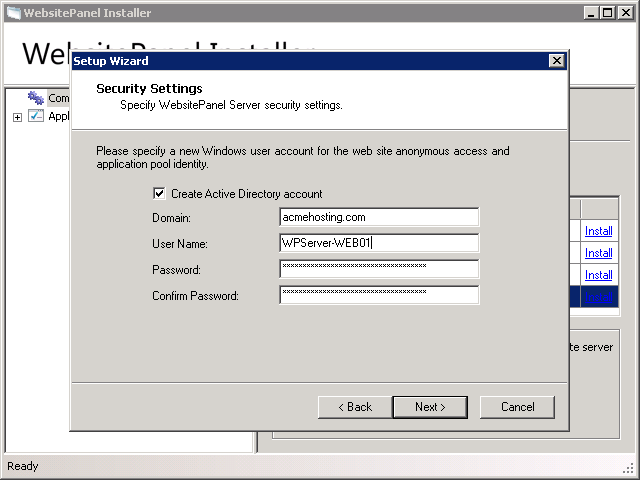


Figure 30. Choosing component's Security Settings

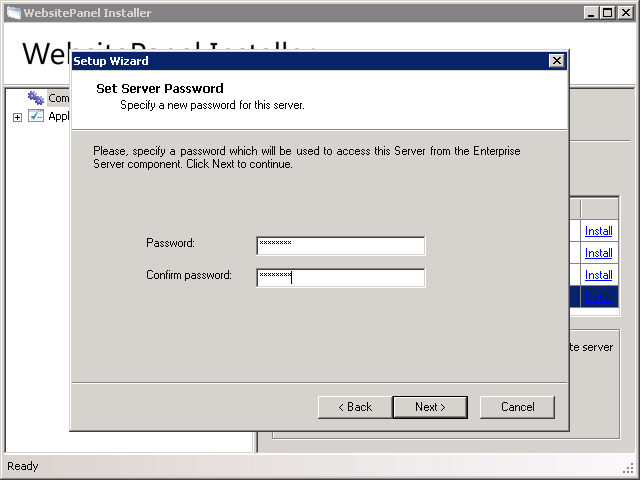


Figure 31. Choosing Server Password

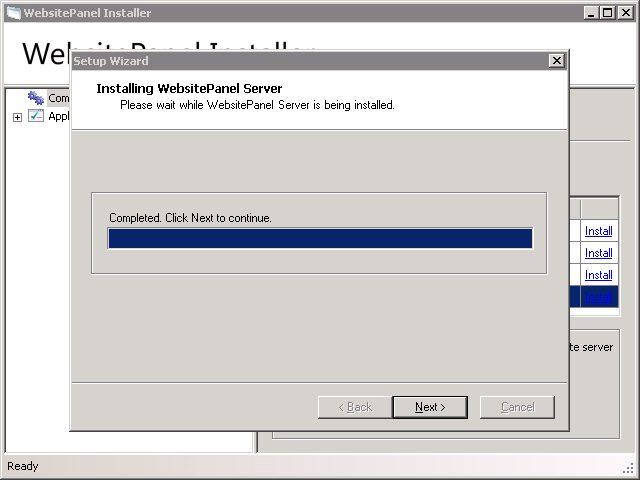


Figure 32. Installation process

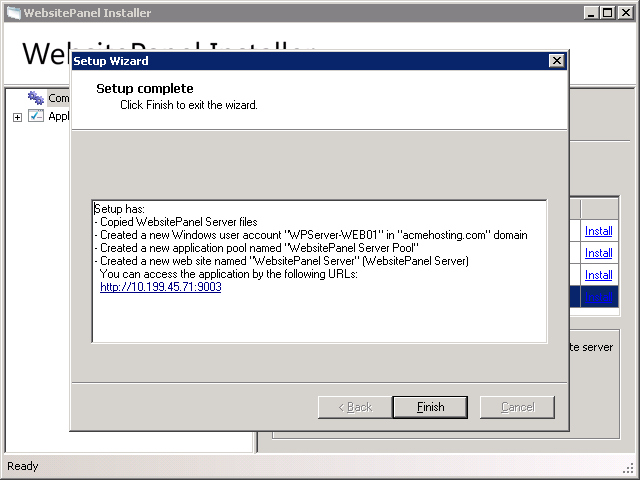
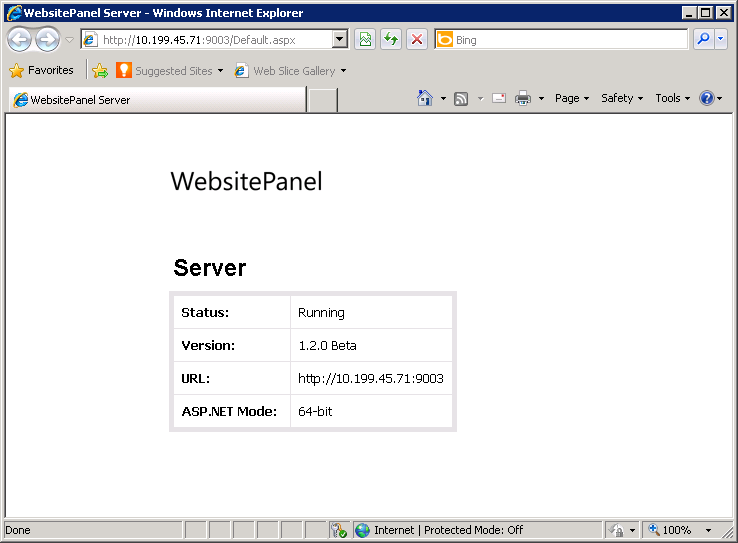


Figure 33. Review installation summary results

\* After reviewing the installation summary results, please click the link to validate if the component has been installed successfully.



\* Also please ensure WPServer account has been granted Domain Admins group membership:

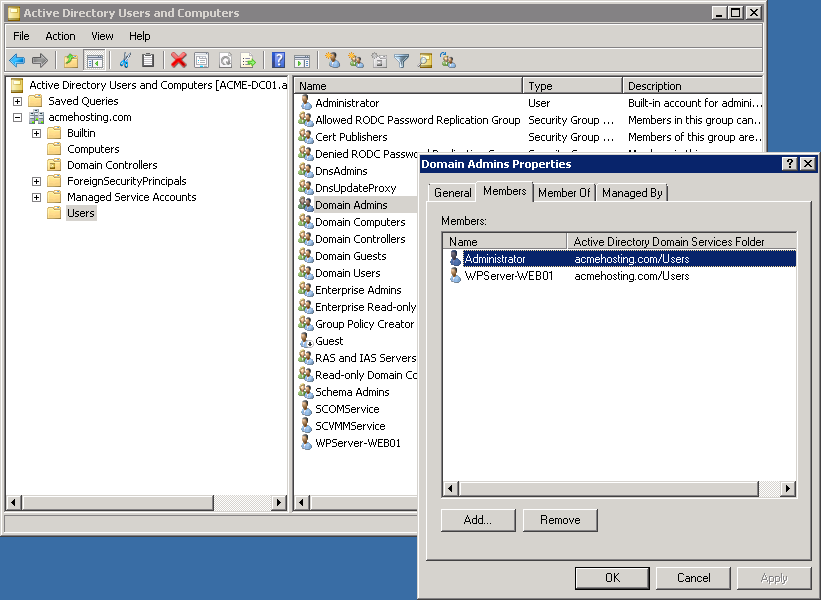


Figure 34. Validate WPServer service account Domain Admins group membership

If for some reason WPServer have not granted membership in “Domain Admins” group during the setup process automatically, please run the following shortcut from the elevated command-line on domain controller (ACME-DC01 as per sample diagram):

NET GROUP "Domain Admins" /DOMAIN WPServer-WEB01 /ADD

## Post-Installation WebsitePanel Server Component Configuration

Please run the following shortcuts from the elevated command-line on the web server (ACME-WEB01 as per sample diagram) to adjust the settings of WebsitePanel Server component (in Web.config file) to match the actual environment configuration.

"%WINDIR%\System32\inetsrv\appcmd.exe" SET CONFIG "WebsitePanel Server " /section:appSettings /[key='SCVMMServerName'].value:"acme-scvmm01"

\* Adjusts System Center Virtual Machine Manager server name as appropriate.

"%WINDIR%\System32\inetsrv\appcmd.exe" SET CONFIG "WebsitePanel Server " /section:appSettings /[key='SCVMMServerPort'].value:"8100"

*\* Adjusts a port number to be used to connect to the System Center Virtual Machine Manager server.*

## WebsitePanel Enterprise Server Installation

Run WebsitePanel Installer if it is not already running and click “Load Available Components” button to see the list of components available to install. Note, that the version number should be 1.2.0.

Click “Install” link on WebsitePanel Enterprise Server component to load the distributive and begin the installation process:

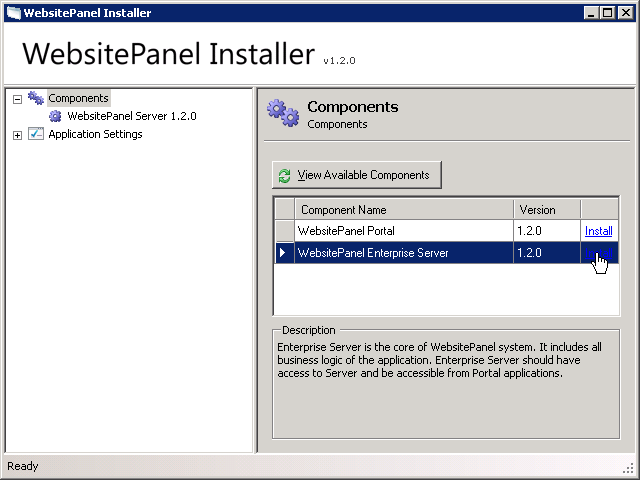


Figure 35. Initiating WebsitePanel Enterprise Server component installation

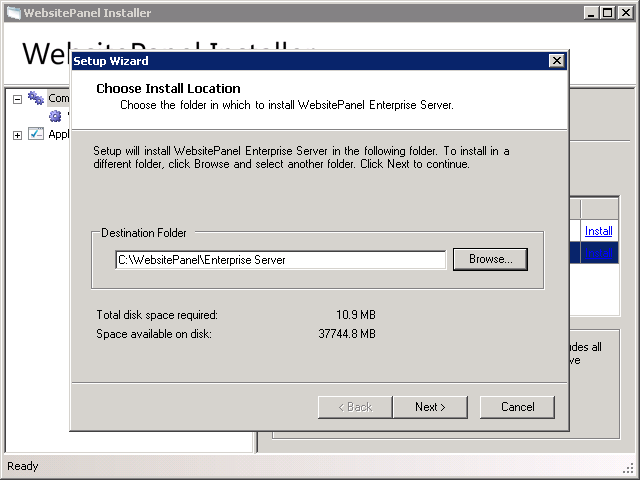


Figure 36. Choosing the component’s installation location

\* We recommend using internal IP address to run the component on:

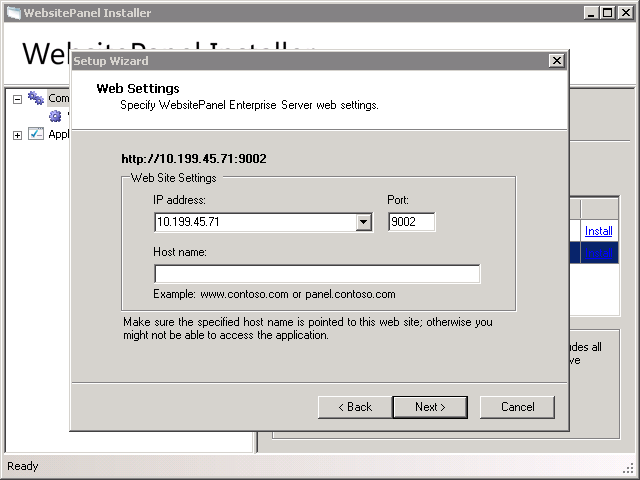


Figure 37. Choosing Web Settings

\* We recommend using local account to run this component in the environment:

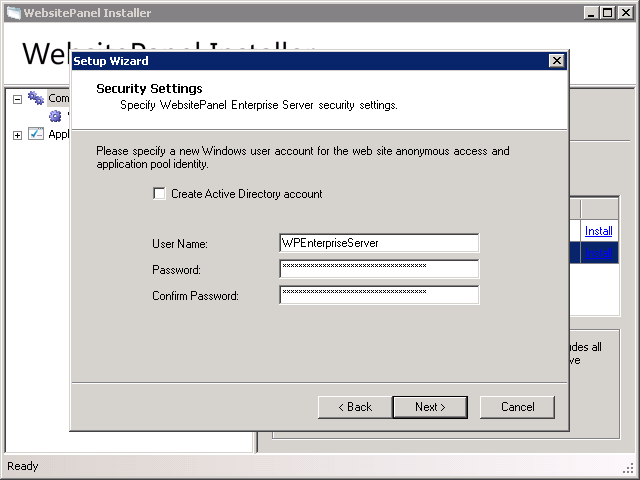


Figure 38. Choosing Security Settings

\* In this case we use an instance of Microsoft SQL Server 2008 Express installed locally to host WebsitePanel Enterprise Server database but in a production environment we recommend to use a separate instance of SQL Server to distribute the workload between machines effectively.

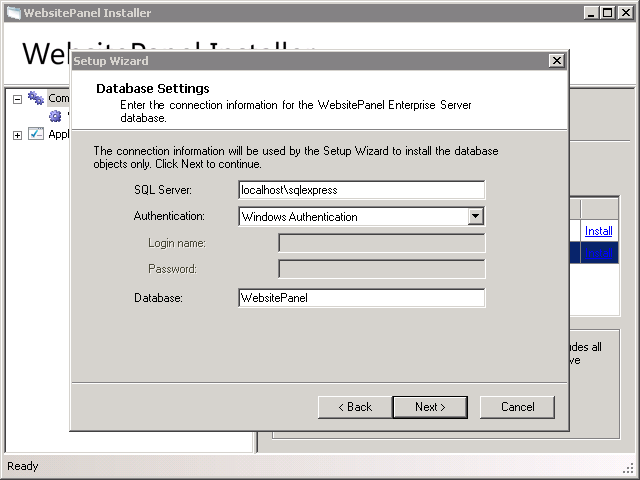


Figure 39. Choosing Database Settings

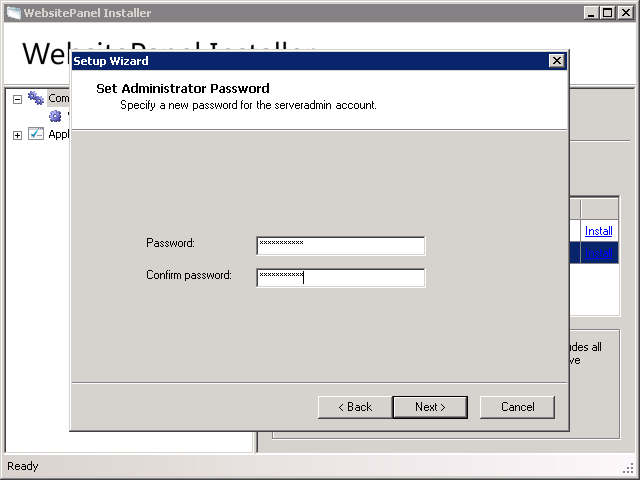


Figure 40. Choosing Administrator's Password

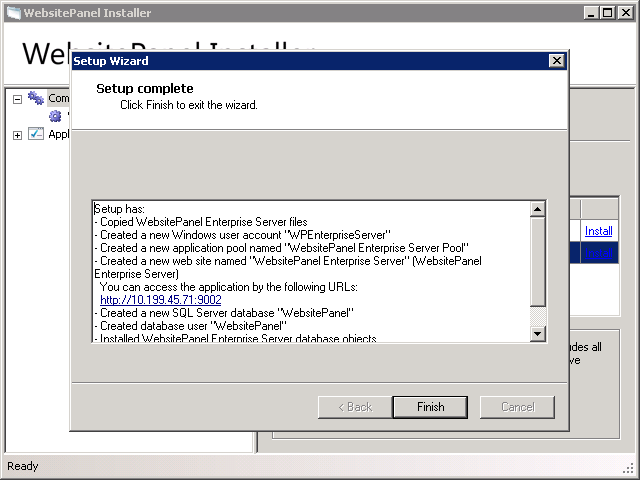
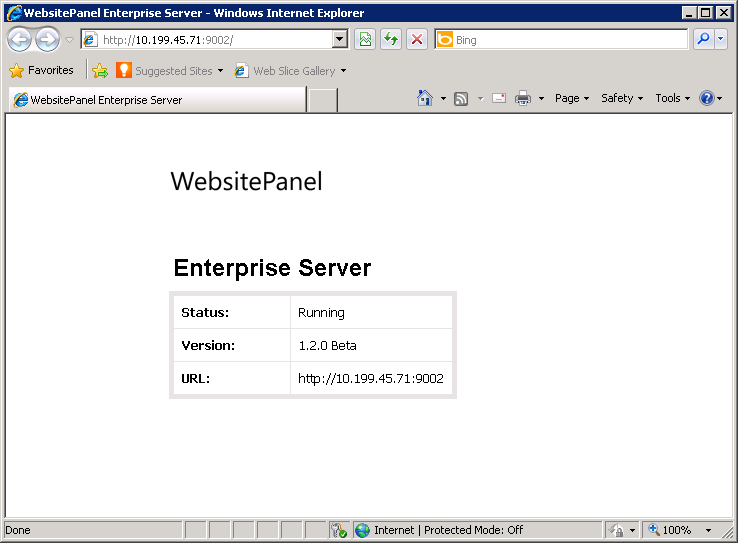


Figure 41. Review installation summary results

\* After reviewing the installation summary results, please click the link to validate if the component has been installed successfully.



## WebsitePanel Portal Installation

Run WebsitePanel Installer if it is not already running and click “Load Available Components” button to see the list of components available to install. Note, that the version number should be 1.2.0.

Click “Install” link on WebsitePanel Portal component to load the distributive and begin the installation process:

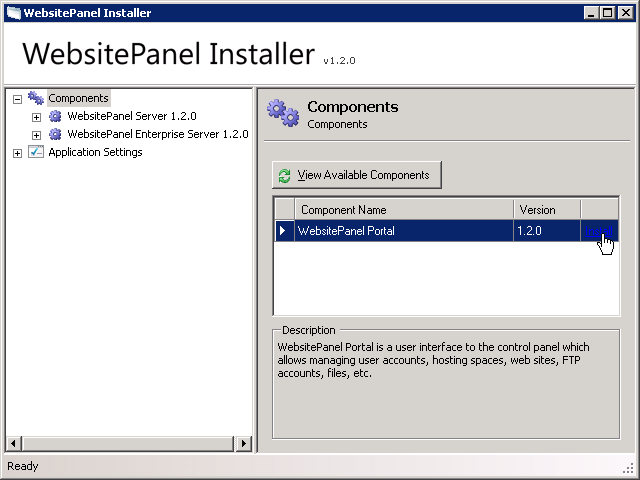


Figure 42. Initiating the component setup process

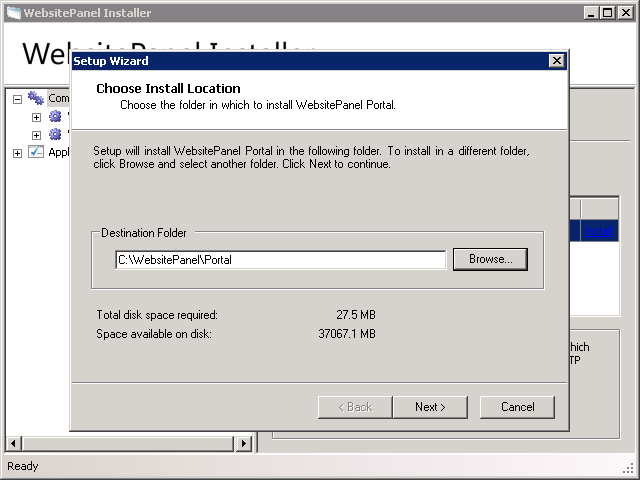


Figure 43. Choosing Installation Location

\* We recommend using internal IP address to run the component on:

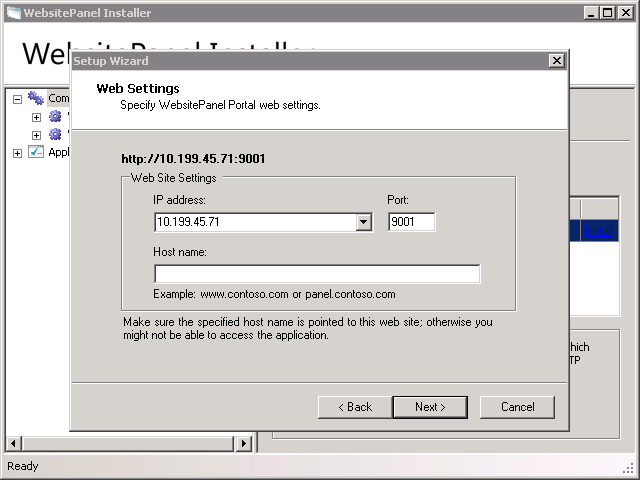


Figure 44. Choosing Web Settings

\* We recommend using local account to run this component in the environment:

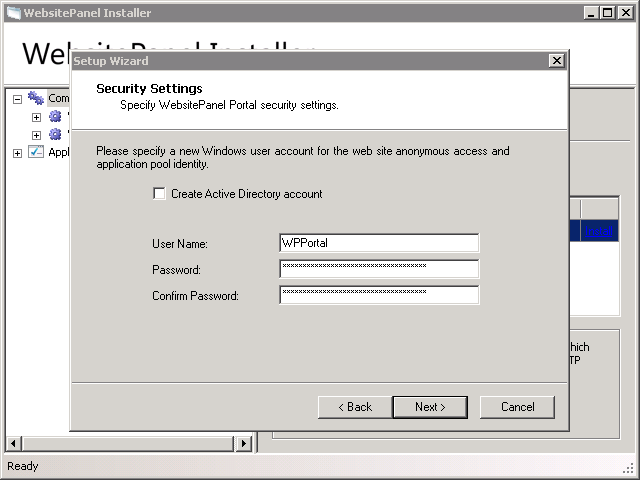


Figure 45. Choosing Security Settings

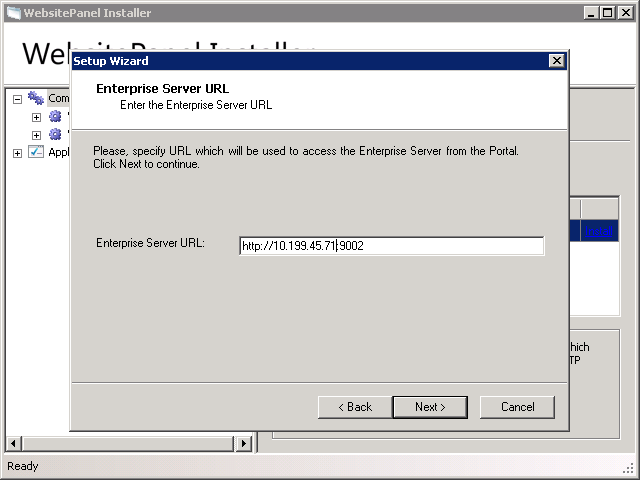


Figure 46. Choosing Enterprise Server URL

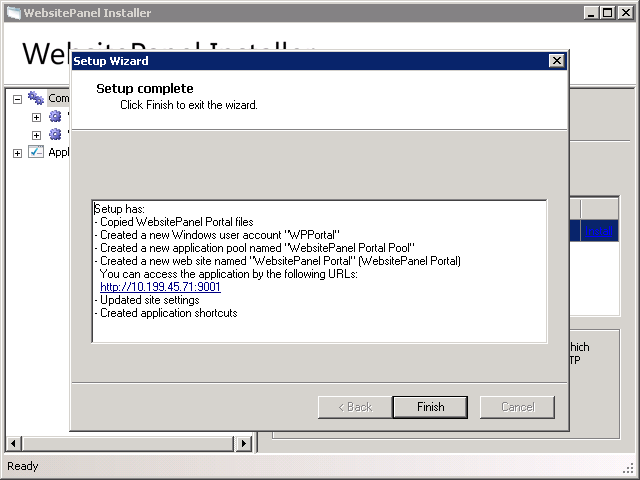
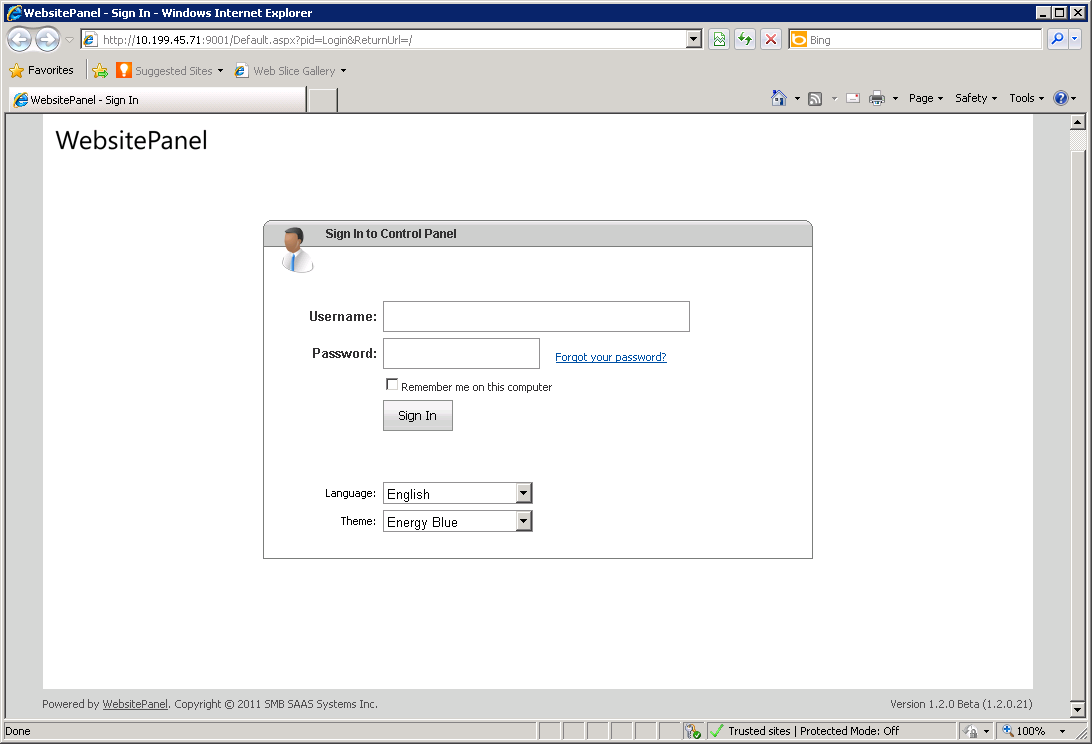


Figure 47. Reviewing installation summary results

\* After reviewing the installation summary results, please click the link to validate if the component has been installed successfully.



## Validate/Adjust Windows Firewall Configuration

Please validate Window Firewall configuration to see if WebsitePanel ports (TCP 9001, 9002 and 9003) are allowed to communicate through and if they are not, please run the following shortcuts from the elevated command-line on the web server (ACME-WEB01 as per sample diagram) to configure corresponding rules in Windows Firewall:

NETSH ADVFIREWALL FIREWALL ADD RULE name="WebsitePanel Portal (TCP-In)" dir=in action=allow localport=9001 protocol=tcp profile=any

NETSH ADVFIREWALL FIREWALL ADD RULE name="WebsitePanel Enterprise Server (TCP-In)" dir=in action=allow localport=9002 protocol=tcp profile=domain

NETSH ADVFIREWALL FIREWALL ADD RULE name="WebsitePanel Server (TCP-In)" dir=in action=allow localport=9003 protocol=tcp profile=domain

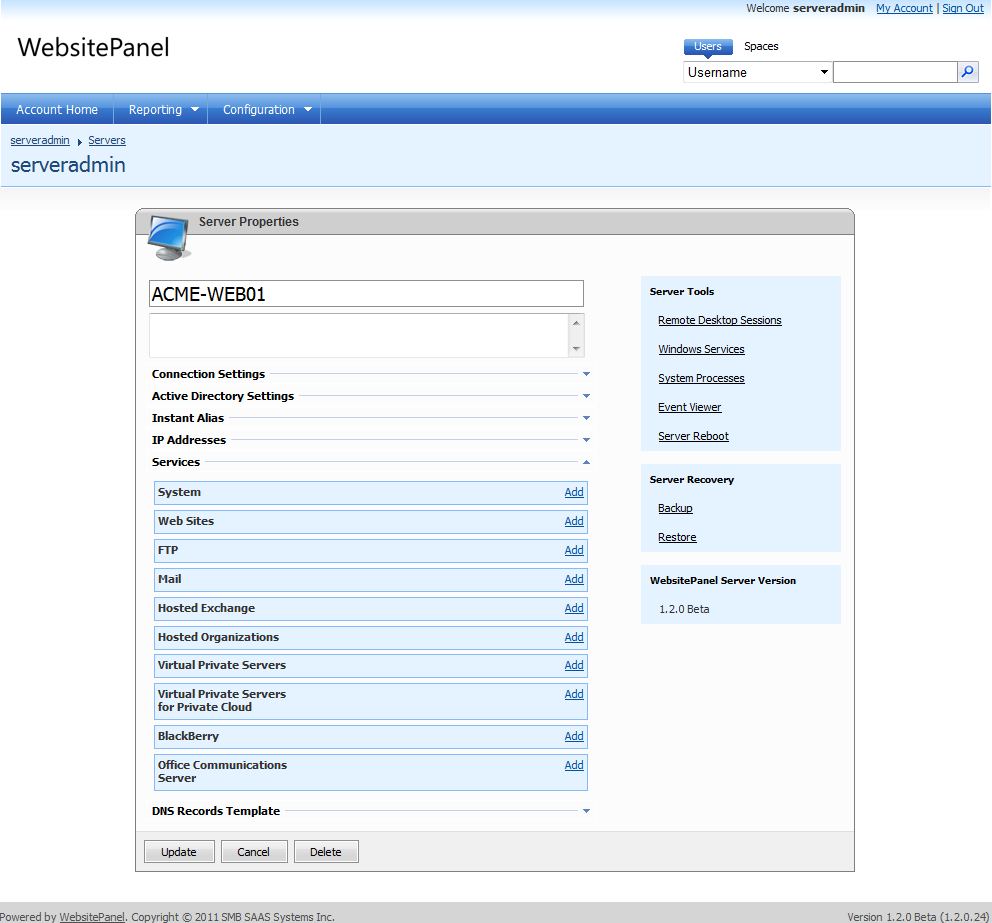
## Configure Hyper-V for Private Cloud Module

After WebsitePanel components installation and validation that all those installed are working properly, the next step is to configure the module settings to be able to work and interact with System Center products and DDTK endpoints deployed. The following steps will help you to get through. Please note that the following information is referring to the sample diagram <XXX>.

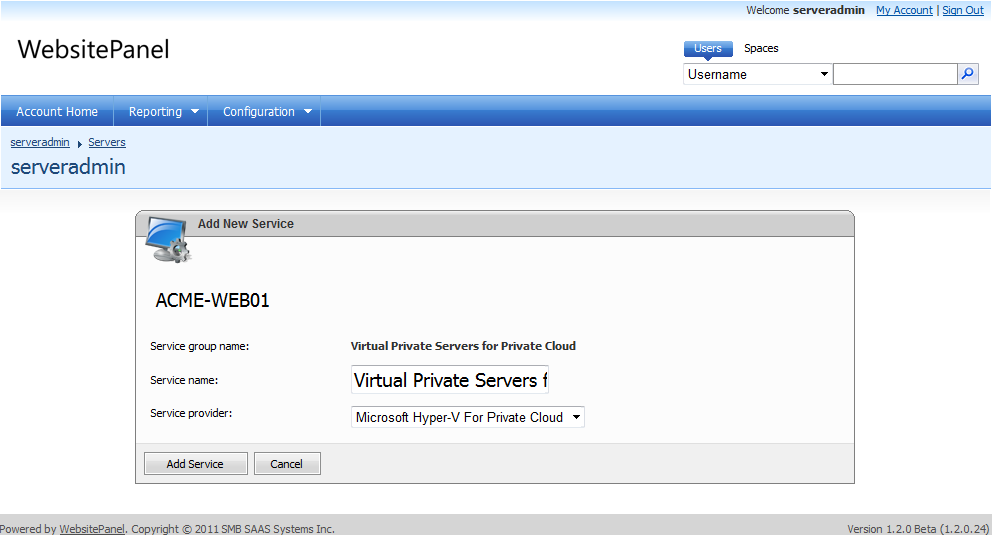
For steps how to get WebsitePanel up and running, please refer to “WebsitePanel – Administator Guide – Quick Setup Outline” that can be found online at: <http://www.websitepanel.net/administrator-guide/quick-setup-outline>.

Once you are done with quick setup outline manual, you should register and configure “Virtual Private Servers for Private Cloud” service provider on the server. Please find below a set of screenshots that help you to get through.

Please click “Add” hyperlink to register the provider on the server:



Then choose “Microsoft Hyper-V For Private Cloud” and click “Add Service” button:



Afterwards, you should establish connectivity with DDTK components (SCOMService and SCVMMService). At this time you specify SCVMM Server connection options by specifying a URL to SCVMMService component from DDTK installed on the web server (ACME-WEB01 as per sample diagram). Note, the principal name we specified to connect to the endpoint – this is SCVMMService account we created earlier. Next step you should do is to validate connection by pressing the red button that should turn on green once the connection has succeeded.

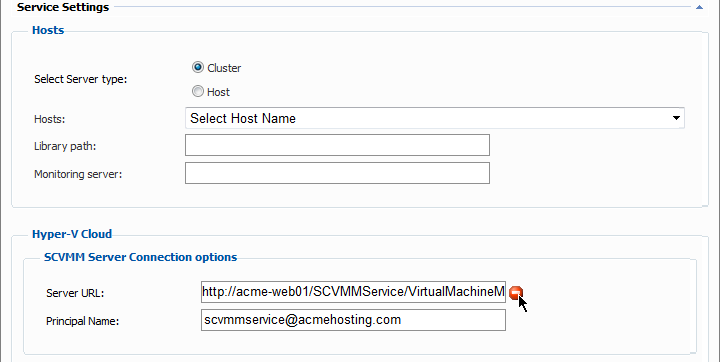


Figure 48. Connection has not been validated

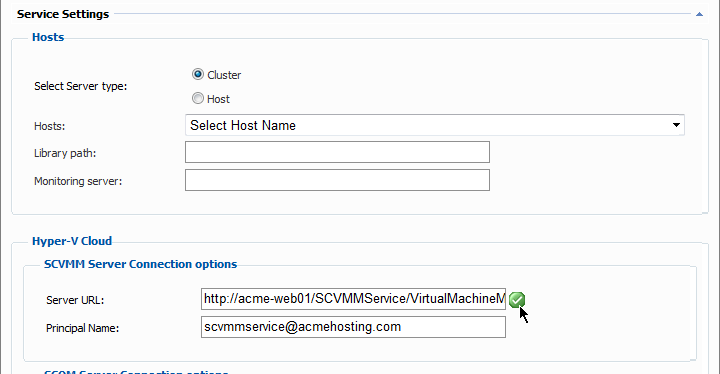


Figure 49. Connection has been successfully validated

Next, we specify SCOM Server connection options by specifying a URL to SCOMService component from DDTK installed on the web server (ACME-WEB01 as per sample diagram). Note, the principal name we specified to connect to the endpoint – this is SCOMService account we created earlier. Next step you should do is to validate connection by pressing the red button that should turn on green once the connection has succeeded.

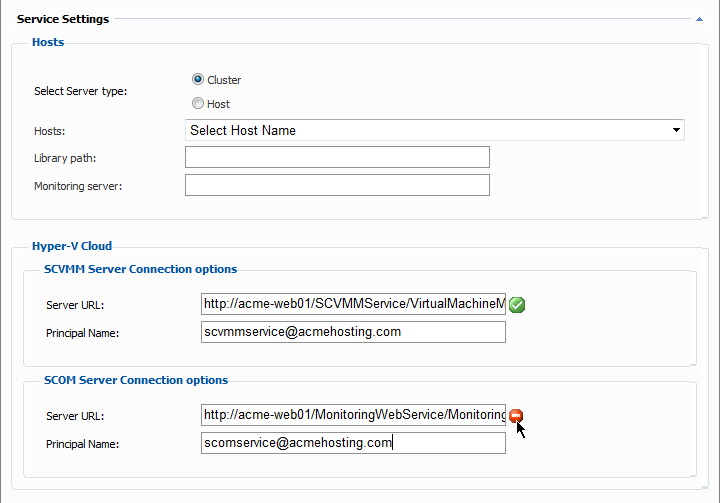


Figure 50. Connection has not been validated

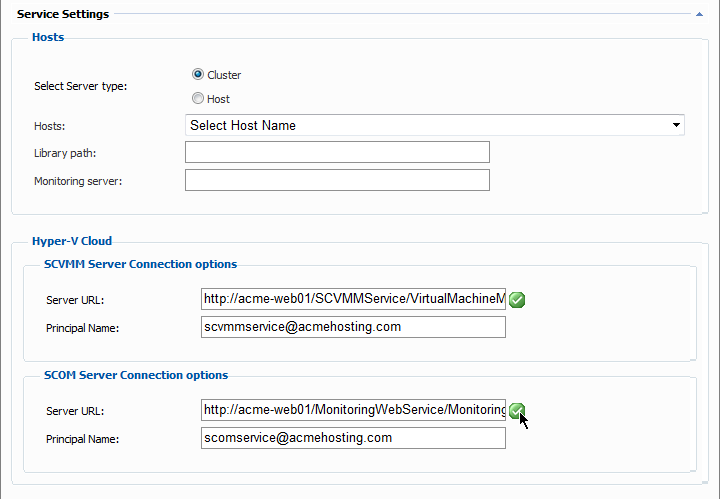


Figure 51. Connection has been validated

After SCOM and SCVMM connection settings have been validated successfully, please go through and fill out all the settings on the page except Server Type choice, Hosts list, External and Private Networks selection. We get back to these a bit later once we set the remaining settings and save service provider settings. Please find a sample settings screenshots below:

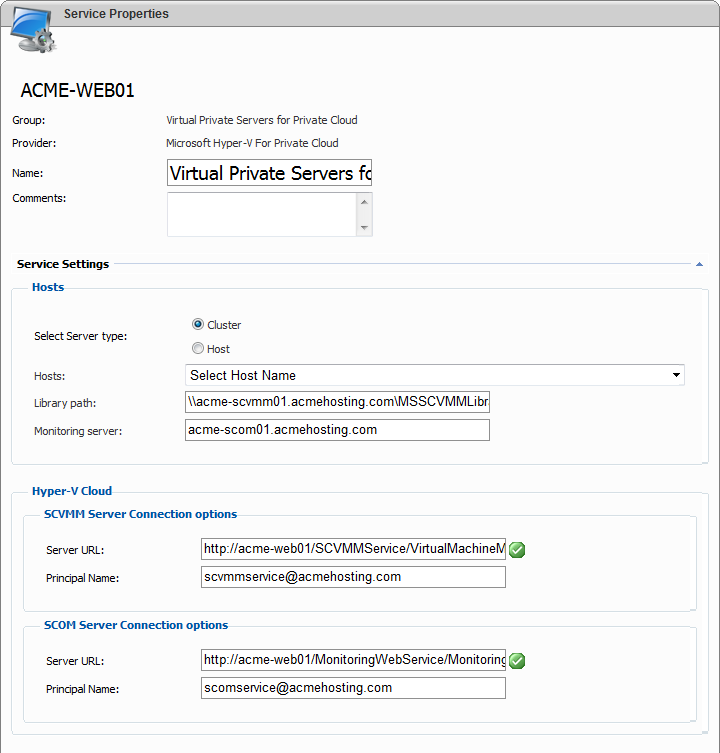


Figure 52. Provider Settings - Part 1

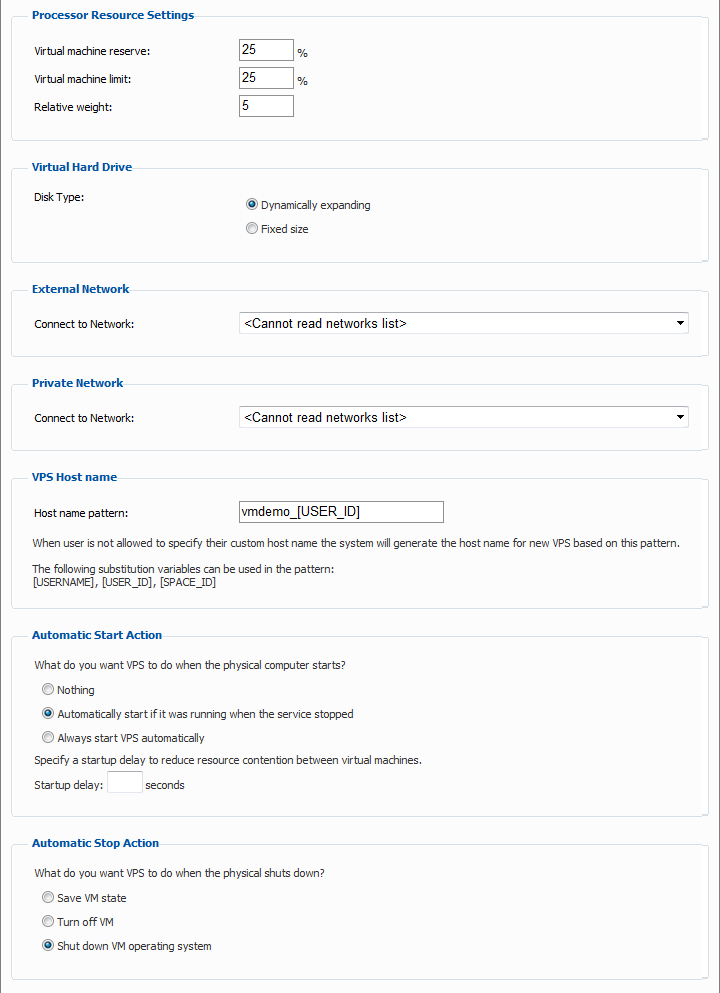


Figure 53. Provider Settings - Part 2

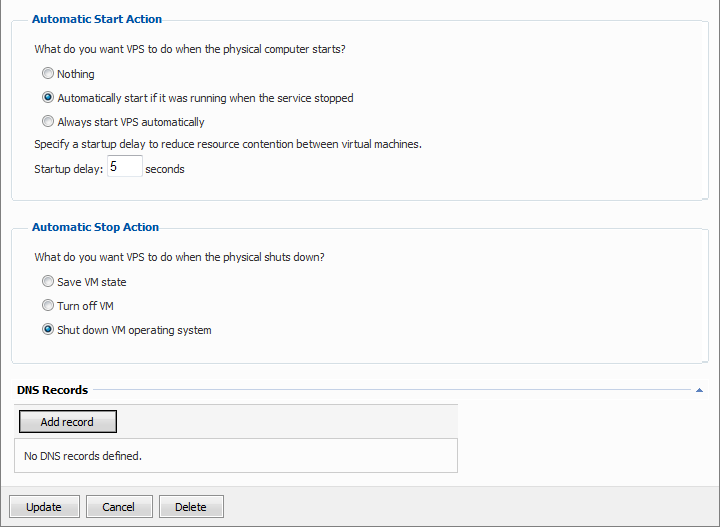


Figure 54. Provider Settings - Part 3

When you are done, click “Update” button to save the provider settings and once the settings are saved you will be redirected to the server’s properties page as per the screenshot below:

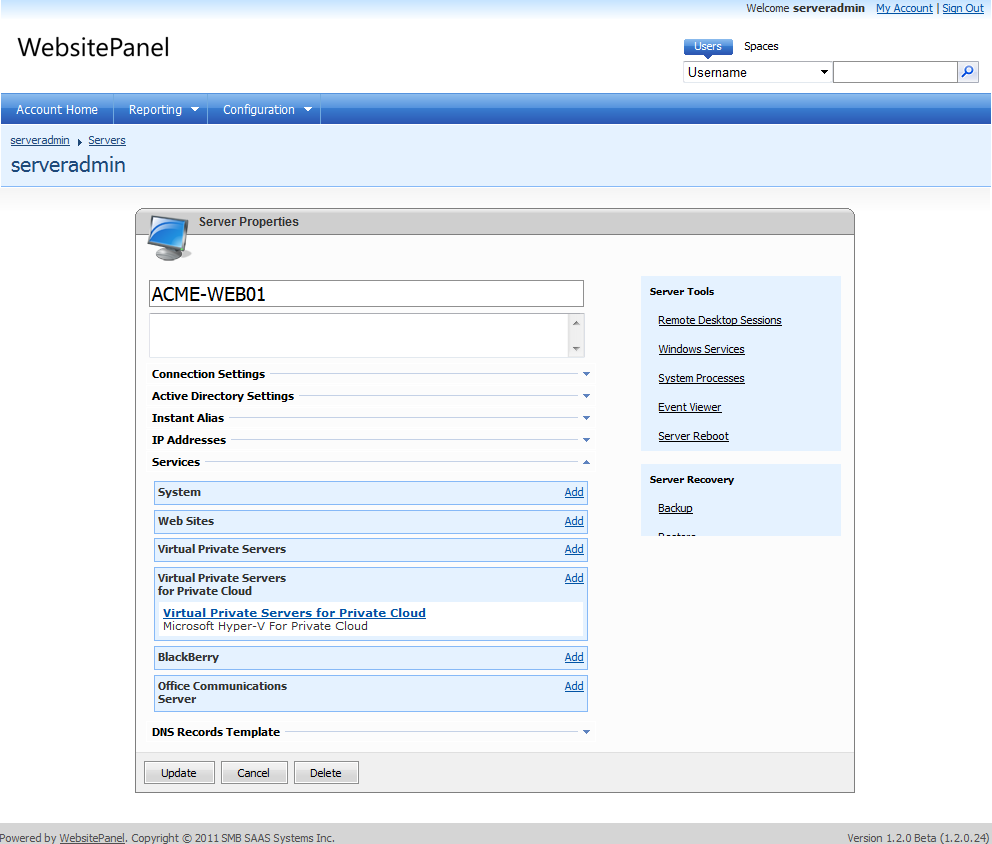


Figure 55. Hyper-V for Private Cloud service provider registered

Then click the service provider’s name hyperlink to navigate back to the provider’s settings page to complete the configuration process and set Server Type, target Host for provisioning, External and Private Network options:

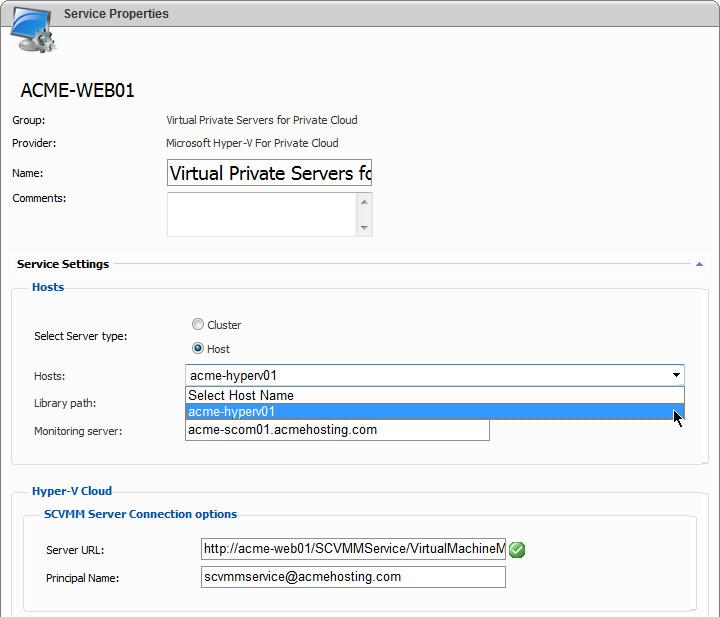


Figure 56. Choosing Server Type and target Host for VMs placement

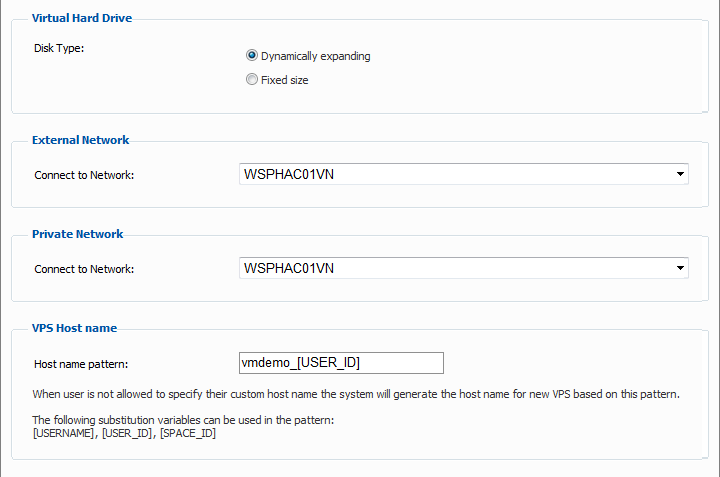


Figure 57. Choosing External and Private Network to assign for new VMs being provisioned

When these settings are set, scroll to the page’s bottom and click “Update” button to save the changes you have done.

## Configure Hosting Plans and Demo Accounts for Testing Purposes

At this point all the necessary configuration changes and adjustments have been made and you can proceed to start creating hosting plans and demo user account for testing purposes. Please refer to the following guides to accomplish these tasks:

1. “Administrator Guide – Creating Hosting Plans” online at: <http://www.websitepanel.net/administrator-guide/creating-hosting-plans>;
2. “Administrator Guide – Creating User Accounts” online at: <http://www.websitepanel.net/administrator-guide/creating-user-accounts>;