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A Cloud Automation Solution

HC10 Configuration for Hyper-V Failover Cluster

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1) Introduction

HC Hyper-V module is an additional layer above the hypervisor, facilitating easy creation and management of virtual machines through a web-based UI. It strengthens the overall functionality of Hyper-V by furnishing a web platform to Data Centers and VPS Providers, allowing them a firm grip over various configurations of CPU, memory, storage and networking.

This article provides information regarding configuration of a Hyper-V failover cluster in HC Panel. The explanation will also show a sample Hyper-V environment and goes over the server level and HC related requirements for the cluster to work seamlessly with HC10 Panel

2) System Requirements for Hyper-V Failover cluster

2.1) Hyper-V front-end requirements

HC Panel gives you the flexibility to design your Hyper-V front-end environment any way you want which suits your business needs. We will go over the steps in this document using which you can then integrate all your front-end nodes in HC Panel and how any VM owner related changes at the back-end will be reflected in HC Panel GUI.

The only requirement from HC's end is that the all the Hyper-V nodes are part of Active Directory Domain and VM migration is not configured against stand-alone servers.

2.2) Failover Storage configuration requirements

HC Panel has few requirements when it comes to the storage solution implemented for the failover cluster. They are as under:

1. iSCSI storage needs to be configured.
2. Cluster Shared Volumes needs to be enabled in the Failover cluster.

3) HC Supported Hyper-V Failover scenarios

Hosting Controller has tailored its Hyper-V solution after going through the feedback made by many of our valued clients. And based on this feedback, we have provided the support for both Quick Migration and Live Migration in Hosting Controller control panel.

4) Prominent features and practices of HC Hyper-V Cluster implementation

4.1) Practices

1. The storage configurations of all the Hyper-V nodes need to be identical in HC Panel.
2. All the nodes of the failover cluster must be added in HC Panel. And HC Agent installer will be deployed on each one of them. HCAgent installation comprises of few clicks only and can be followed on each Hyper-V node by consulting this document: https://help.hostingcontroller.com/hc10/default.aspx?pageid=hc_agent_installation
3. The '**HCAgentService**' (HC Agent service) needs to run under Domain\Administrator account on all Hyper-V nodes.

4.2) Features

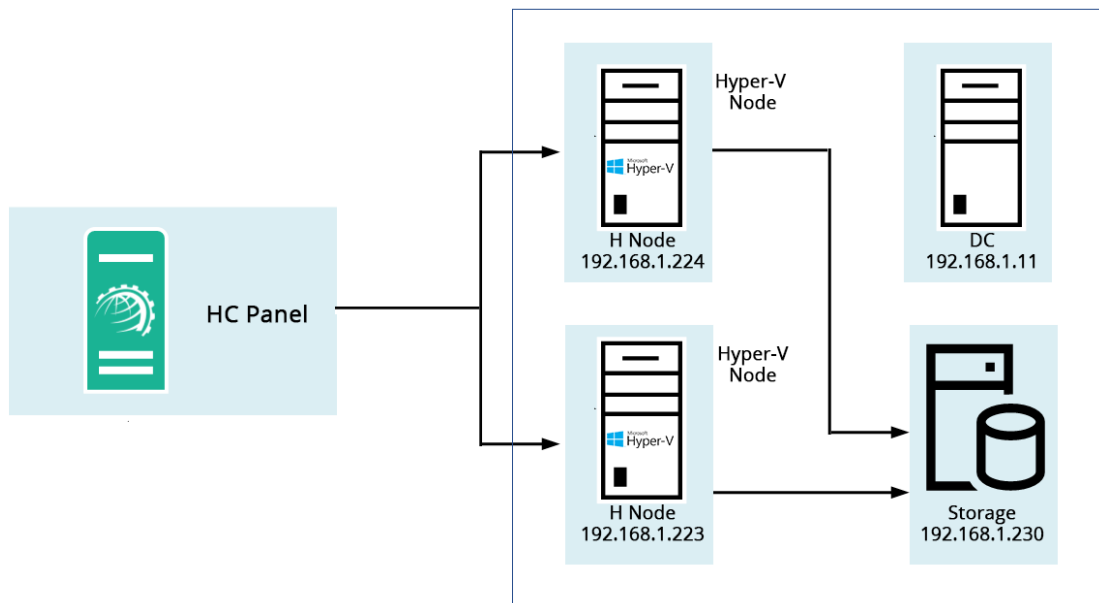
1. After Hyper-V failover cluster has been configured in HC Panel, all the future VMs provisioned via the Panel will automatically be in a failover state.
2. If a node goes down, Hyper-V Cluster then migrates all the VMs located on this node to the next node. This process may include Quick or Live migration. The change of VM Owners will be reflected in HC Panel and all the VMs will be shown affiliated with the updated Hyper-V node. There is no manual intervention required for the whole process to reflect the changes in HC panel.

5) Lab Environment

The configuration of Hyper-V Failover with HC Panel can best be explained by explaining a simple Hosting Controller's lab environment and demonstrating how it can be configured in the control panel.

LAB consists of the following:

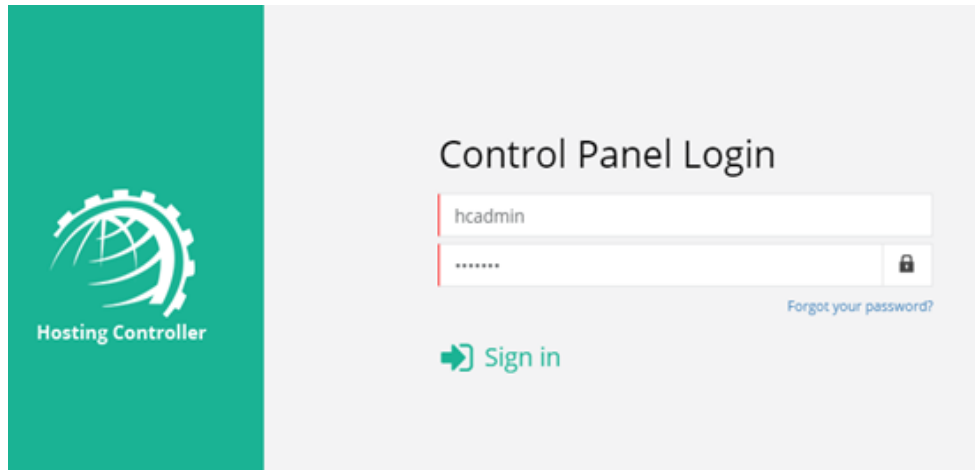
- WS 2016 DC – 192.168.1.11 – Windows Server 2016 Standard is DC for the test lab.
- WS 2016 Storage Server iSCSI Target – 192.168.1.230
- WS 2016 Node 1– 192.168.1.223 – Windows Server 2016 Standard – Failover Cluster Node 1.
- WS 2016 Node 2– 192.168.1.224 – Windows Server 2016 Standard – Failover Cluster Node 2.
- Private Network IP for Failover Cluster is 192.168.1.231




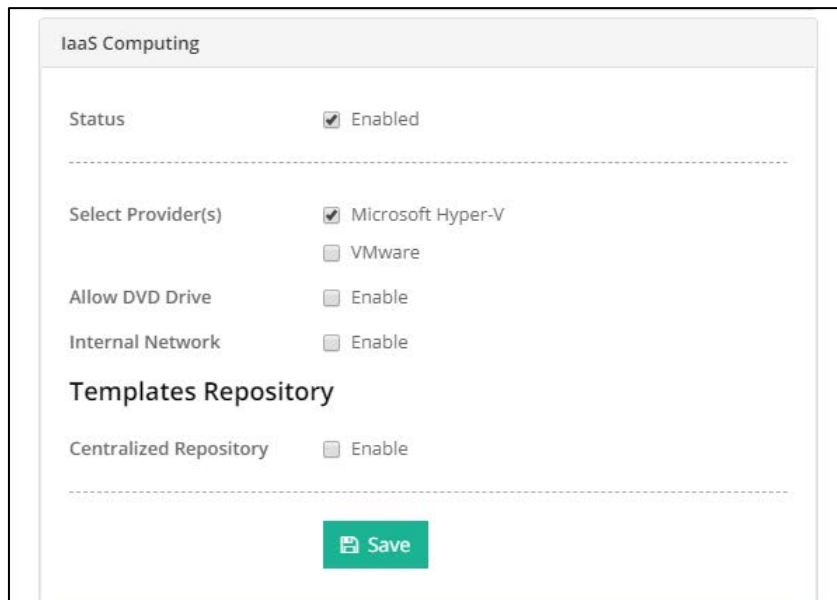
6) Configuring the Panel

To configure the panel, follow the steps as stated for complete and easy Hyper-V server configuration:

1. Log on to HC10 panel as a Global Admin user.



2. To enable Hyper-V server, click  at top right corner of HC10 panel and then go to the **Server Manager >> Cluster Settings**. Under On-premises tab and **IaaS Computing** section, select Enabled checkbox. Now click on Hyper-V checkbox and click on **Save** button.



3. **Adding Hyper- Nodes in HC panel:** To add a Hyper-V node to the cluster, go to the **Server Manager >> Servers**. Click **Add Server >> On-premises Windows**. Here against the 'Server's Friendly Name' field exact hostname of the Hyper-V node needs to be added. Furthermore,

against the Admin User field, the credentials of Domain Administrator need to be added. Click 'Check Connectivity'.

Add Server (On-premises Windows) ×

General Information

Server's Friendly Name	<input type="text" value="HyperNode1"/>
IP Address	<input type="text" value="192.168.1.223"/>
Admin User	<input type="text" value="testlab\administrator"/>
Password	<input type="password" value="*****"/>

[Check Connectivity](#)

Server Role(s) in Cluster

Select Server Role IaaS Computing

[Add Server & Configure >](#) [Cancel](#)

- Click on 'Failover Management' checkbox. If this checkbox is not selected, HC Panel will treat this server as a standalone Hyper-V node. After selecting **Enable**, add the IP of Failover Cluster against the 'Failover Ip' option and specify the credentials of Domain Administrator user account.

Check the In the Server Credentials section, Add the hostname of the server against the 'Server Name' field. Add Domain Administrator credentials and click on 'Check Connectivity'.

The screenshot shows the 'IaaS Computing' configuration page. It is divided into three main sections:

- General Settings:**
 - Select Provider: Microsoft Hyper-V
 - Version: HyperVV2
- Failover Clustering:**
 - Failover Management: Enable
 - Failover Ip: 192.168.1.131
 - Admin User: testlab\administrator
 - Password: [Redacted]
 - Check Connectivity button
- Server Credentials:**
 - Server Name: Node1
 - Admin User: testlab\administrator
 - Password: [Redacted]
 - Check Connectivity button

- For the 'Virtual Machines Root', add the path of Cluster Shared Volume folder where the VHD of new provisioned VMs will be stored. Click Save. Repeat steps 3 to 5 for all the Hyper-V nodes. Note that this is one-time configuration which is required to prepare your HC Hyper-V Failover Cluster supported environment.

- Adding OSTemplates:** OSTemplates can be created using the following link: https://help.hostingcontroller.com/hc10/default.aspx#pageid=hyper_v

Caution: The VHD Location path at **Configurations >> Virt. Module Conf. >> OS Templates** must be located on **Cluster Shared Volumes** else the OSTemplate will not work for creation of VMs.

- Adding Set of IPs for VMs:** IPAddresses can be added with the help of the link given below:

http://help.hostingcontroller.com/hc10/default.aspx#pageid=configuring_public_ip_address

8. **Adding Virtual Machine:** Now Virtual Machines can be provisioned via HC panel in Failover Cluster environment from: **Provisioning >> Virtual Machines >> Create Virtual Machine.**

7) Contact Us

If you have your environment ready and want to test the HC Panel Hyper-V failover capabilities, you can contact our support team at support@hostingcontroller.com and we will configure the Panel for you.