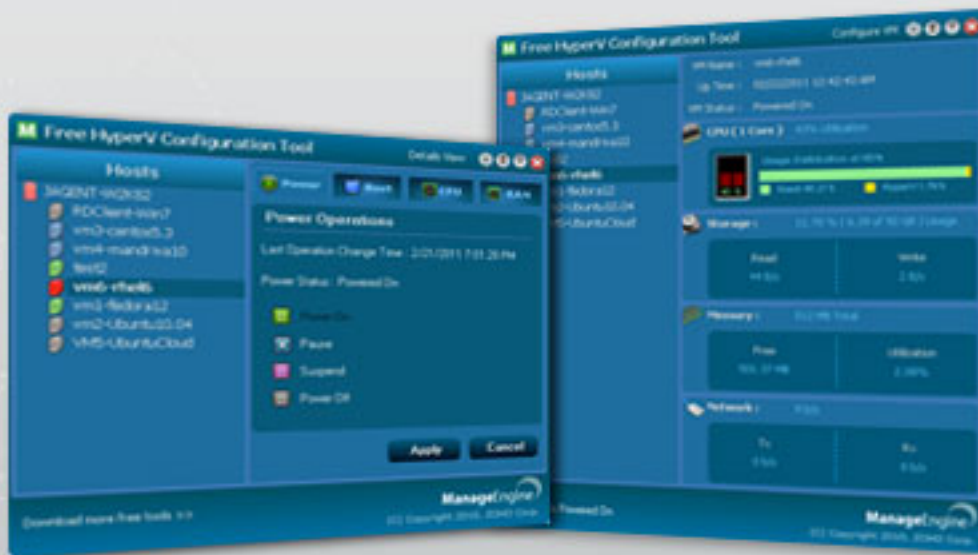


ManageEngine Free Tools User Manual



HyperV Configuration Tool

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Overview

Free Hyper V Configuration

Virtual servers provide great cost benefits as opposed to real physical server. This encourages people to run many applications and services on these virtual servers. The application, that is running within the virtual servers need to be running all the time. Sometimes, during emergency situations, few VM's require more resources to manage the demanding, resource intensive applications running on them. In that critical moment, it becomes imperative to allocate more resources, such as CPU, RAM to that VM's. Hence, it is important to monitor and manage those virtual servers(VM's) continuously at all the times

The ManageEngine's Free Hyper V Configuration tool addresses this monitoring and management requirement. The Free software can configure Microsoft Hyper V Virtual server (VM's) resources such as CPU, RAM or execute Power operations or change the boot order start-up, and also it fetches comprehensive data about the servers and its virtual machines and presents them as visually elegant graphs and reports in a desktop tool dashboard.

ManageEngine Hyper-V Configuration Tool can configure Hyper V Server from the remote location. The best part is that the tool is made available to you absolutely FREE of cost.

Key Benefits

ManageEngine Free Hyper V Configuration Tool provides an exclusive configuration solution for Hyper-V server, a Virtual Machine, running on Windows 2008 R2. Using the free tool, the administrator can increase or decrease the RAM capacity, or allocate more number of CPU processor for the VM, or execute 'power operations' on the Virtual servers like 'power-on' the VM's , suspend the VM's , 'Power Off' the VM and Pause the VM, and it allows the operator to select the Boot-order for each VM', either it may be from Disk, CD Rom, Pxe boot and more.

Tool populates actual resource utilization details of the virtual servers along with CPU usage, Memory details, Disk and Network utilization of each guest operating system. The dashboard quickly shows how many virtual machines are present, how many are powered-on / powered-off or suspended state and displaying its severity as Critical or Warning in a elegant Tree-View, and also, how much CPU are allocated to / consumed by each Virtual Machine etc., in an intuitive bar graph.

The ManageEngine Hyper V Configuration Tool serves as a smart desktop tool that continuously monitors Hyper V, a Microsoft virtual server, across your network and more importantly, it empowers you to manage / configure those VM's in real-time and ensures your mission-critical applications run smoothly.

Features

Free Hyper V Configuration

The ManageEngine Hyper V configuration tool helps an Administrator to monitor and manage important attributes of a physical machine running in the Microsoft Windows 2008 R2. The following parameters can be configured.

- * Power Option
- * Boot Order
- * CPU
- * RAM

Power Option

Each Virtual machine can be in any one of the following 4 stable states given below :

- * Powered On
- * Pause
- * Suspend
- * Powered Off

Using this configuration tool, if the Virtual Machine state is "Powered-on", then the Administrator can change the state to Powered Off, Suspend & Pause state.

Boot Order

Virtual Machines boot their respective operating systems from various sources. The sources from where they can find operating systems are given below.

- * Floppy Disk
- * Hard Disk
- * CD-ROM Drive
- * Network (Pxe Boot)

The above options can be configured by the Administrator for each virtual machine in different order. One virtual machine may be configured to boot from any one of the above options. Most of the time, operating systems are fetched from the Hard disk. Some machines boot from network / CD ROM.

CPU

Each virtual machine can be allocated one or more of the physical processors that the parent host machine contains. This screen helps the user to allocate a portion or all of the CPU resources available for the particular virtual machine.

RAM

Each virtual machine can be allocated an amount of Random Access Memory that is present in the parent host machine. There are two ways in which RAM can be allocated to a virtual machine.

- * Fixed Allocation
- * Variable Allocation

Fixed Allocation

This type of allocation is possible only with Microsoft Windows 2008 R2 release. In this type of allocation, only a fixed amount of RAM can be allocated to this virtual machine. This amount of RAM will be used when the virtual machine starts up.

Flexible Allocation.

- * Minimum startup RAM
- * Maximum RAM
- * Memory Buffer

The flexible Allocation plan option is available from Windows 2008 R2 SP1. In this allocation plan, a user can allocate a minimum startup RAM, Maximum RAM and Memory Buffer for each virtual machine.

Minimum startup RAM

When a virtual machine starts, it request an amount of RAM from the Host machine. This amount is termed as minimum startup RAM. Each virtual machine is then allocated a maximum RAM which can use from the total physical memory available in the Host machine.

Maximum RAM

Maximum RAM is the amount of RAM that can be allocated to a virtual machine from the Host machine. When virtual machine is running and if it needs more RAM than the initial startup RAM due to a demanding application, then it uses the maximum RAM during its course of operation. When the requirement is completed it is given back to the Host OS to be shared with other applications that may need it.

Memory Buffer

The Memory Buffer is the extra amount of RAM reserved for a virtual machine at runtime as a percentage of the Total RAM present in the Host machine.

Performance Monitoring in Hyper V

ManageEngine Hyper V Configuration tool also helps an administrator to view the following performance parameters for both the Hyper V host and its virtual machines.

- * CPU Utilization
- * Memory Utilization
- * Disk Read Rate / Disk Write Rate
- * Network Rx / Tx

CPU Utilization

CPU Utilization is the current percentage of the total clock cycles being consumed by the virtual system. If a processor of a single VM shows 100% utilization, and the machine has totally 2 physical processors, then we can expect the total CPU load percentage to be around 50%.

Memory Utilization

Memory Utilization is provided as a percentage of memory used to the total memory available in bytes.

Network Rx

Average rate at which data was received during the interval between the previous refresh cycle and the current refresh cycle. This represents the rate at which data is received across each physical NIC instance on the host. This parameter is shown in kbps (Kilo bits per second).

Network Tx

Average rate at which data was transmitted during the interval. The rate at which data is transmitted across each physical NIC instance on the host. This parameter is shown in kbps (Kilo bits per second).

The following variables are monitored only for the Hyper V host.

Disk Read Rate

This parameter provides the number of bytes read from the disk between the previous refresh operation and the current refresh operation. This parameter will be shown in bytes/KB/MB/GB per second.

Disk Write Rate

This parameter provides the number of bytes written to the disk between the previous refresh operation and the current refresh operation. This parameter will be shown in bytes/KB/MB/GB per second.

Documents

Free Hyper V Configuration

The Free ManageEngine Hyper V Configuration tool helps the Administrator to configure Hyper V virtual servers in the IT infrastructure.

This tool makes connection with Hyper V server and generates easy to visualize desktop reports and graphs. Using the tool, Administrator can monitor and configure, Hyper V servers from remote location.

Getting Started

ManageEngine Hyper-V configuration tool helps an Administrator to configure Hyper-V Servers.

Start the tool, this will take you to Settings window, from there, Administrator can make connection.

Settings Screen

Click on the settings icon to fill the following details.

- * Hostname/IP Address
- * Domain Name
- * UserName
- * Password

Click on the "Connect" button to connect to the Hyper -V server running on Windows 2008 R2.

This will connect to the Hyper V server and populate Hyper V server details view.
How to Configure ?

This tool supports configuring four types of resources in a Hyper V host. They are Power Operations, Boot Order, CPU allocation and RAM allocation. When a user wants to configure a Virtual Machine, the configuration screen can be invoked by clicking on the "Configure VM" text on the top right corner of the tool.

Power Operations

In the Power operations tab, the first information provided to the user, is to identify the last time the configuration was changed. Next, the Virtual Machine's current power status is provided. After this, the list of power options is given to the user. Only options which are possible, based on Virtual Machine's current power state, is enabled to user. The rest of the power options are disabled.

For example. When a Virtual Machine is currently switched on, all the other power options like Pause, Suspend and Power Off are possible for the user. The Power On option will be disabled, since the Virtual machine is already power on.

Change the required power state and click "apply" button, to commit the changes on the Hyper V server.

Boot Order

Typically, a Virtual Machine boots up from one of the various hardware sources, where it can look up for an Operating System. Few devices can be configured to provide the Operating System. They are listed below.

- * CD-ROM drive
- * Hard Disk drive
- * Floppy drive
- * Network (Pxe Boot)

The order in which these devices have to be looked up can be configured for a Virtual Machine running the Microsoft Hyper-V host. By default, these devices are listed in a particular order. If the user prefers to change the order, then the "Up" or "Down" button has to be pressed. By the pressing the "Up" button, the selected row is moved up or down correspondingly.

After changing the rows to the preferred order, the user need to click the "Apply" button.

CPU

The processing power of the computer can be increased or decreased based on the load on these Virtual Machines. The CPU can be allocated based on the number of physical CPU cores present in the host machine.

The first field provides the number of physical CPU cores present in that machine. The user can enter any number between 1 and the number provided in the total number of physical CPU cores. Click on Apply button to apply the changes in the Virtual Machine.

RAM

There are two types of configuration is possible with this tool.

Fixed Allocation

Fixed RAM for start-up - available in Windows 2008 R2.

specify the fixed RAM value in the editable field and click Apply button to commit the changes.

Flexible Allocation

It is available in Windows 2008 R2 sp1 onwards

- Minimum startup RAM - which will be allocated to each Virtual Machine when it is started.
- Maximum RAM - which Virtual Machine is allocated a maximum amount of RAM in its life
- Memory Buffer - which is the reserve memory for each Virtual Machine.

Fill the Minimum startup RAM, Maximum RAM and The Memory Buffer and click the Apply button and the above configuration will be committed in the server.

Threshold Setting

Using this tool, administrator can also set threshold values for CPU usage, like critical and warning thresholds.

Click the settings icon, There are some threshold parameters for the host that is monitored. They are as follows.

- * CPU Warning Threshold Value (Default is 60%)
- * CPU Critical Threshold Value (Default is 80%)

set required value in the respective field, Click Apply to setting to take effect.
Refresh Interval

Click the setting icon, set the refresh Interval to desired value . Click Apply to take effect.

Data will be refreshed at an interval specified as the refresh interval (5mins by default). This interval has to be given in minutes. The maximum value that can be provided is 14400, which is the time for 10 days. Based on the value provided each Hyper V host will be polled

Refresh

To know the server's current status please use the Refresh icon. When the refresh icon is clicked the latest values of all the VM parameters are fetched and displayed in the GUI.

Retaining Settings

The following details are saved in the disk so that the hosts parameters can be reused when the tool is restarted.

- * HostName
- * Domain Name

- * UserName
- * Password [Encrypted using Triple DES] encryption standard.

The following values are not retained and have to be provided everytime the tool is restarted.

- * CPU Warning threshold
- * CPU Critical threshold
- * Refresh Interval