**What is Hyper-V**

Hyper-V is a **hardware virtualization** product offered by Microsoft. It allows you to make and run a software version of a computer. This version is called a virtual machine. Every virtual machine behaves like a real computer, as it runs programs and operating systems like any other computer system.

In instances where more **computing resources** are required, a virtual machine helps you save time and money, gives you flexibility and serves as a rather efficient way to utilize hardware. Hence, instead of running only one OS on a physical hardware or spending money on many hardware devices, you can use computing resources through Hyper-V.

Hyper-V runs all virtual machines in their separate isolated space. This means that you are able to run more than one **virtual machine** on same hardware simultaneously. This is favorable when you want to avoid problems like a system crash that affects other workloads, or giving different groups, services or people access to different systems.

**How Can Hyper-V Help You?**

Before we move on to common issue in Microsoft Hyper-V, let’s first look at some ways it can help you with.

It enables you to:

* create or expand private cloud environment. Hence, you can get more flexible IT services by using or expanding shared resources and adjusting your utilization if your demand changes.
* carry effective utilization of hardware. You can consolidate workloads and **Hyper-V server** onto lesser and more powerful physical computer systems to utilize lesser physical space and power.
* Improve your business continuity by minimizing impact of scheduled and unscheduled workload downtimes.
* Create and expand Virtual Desktop Infrastructure (VDI). Improve your data security and business agility by using **centralized desktop strategy**. You can also make the regulatory compliance process simpler and easily manage desktop OS and applications.
* Make testing and development more efficient. This is achieved by reproducing multiple computing environments without any need for buying or maintaining hardware that would otherwise be needed if you use physical systems.

**How to Enable Hyper-V for Windows 10?**

The simplest way to enable Hyper-V for Windows 10 is by going to settings and following these steps:

1. Right-click on Windows button; select ‘Apps and Features’
2. Under related settings, select ‘Programs and Features’
3. Select ‘Turn Windows Features on or off’
4. Choose ‘Hyper-V’ and click ‘Ok’

Once the installation is completed, you will be prompted to restart the computer.

**Common Issues and their Solution**

Hyper-V has come a long way since its start more than a decade ago. Though it has improved a lot since it was first introduced in **Windows Server 2008**, there are stills some common issues. These issues are less related to bugs in the hypervisor, and more to do with the way Hyper-V works.

Let’s have a look at some of these issues.

**Slow Virtual Machines**

Virtual machines are slow, and this is mostly related to resource contention. This means that Hyper-V host server has **limited hardware resources**. These must be shared with other virtual machines as well as the hypervisor itself. Whenever hardware resources are inadequate, it can negatively affect the performance.

This holds true when all the **Hyper-V host’s** resources are already allocated, or even when there are plenty of resources available but not allocated sufficiently to a virtual machine. The one resource that causes most of the problems with the virtual machine’s performance is the storage.

Hence, the only way to **prevent storage holdup** is by ensuring that underlying disks meet the I/O demand of the VMs. In order to do that, you can place your virtual hard disk on flash storage, or use RAID 1+0 array for distributing IOPS through multiple disks and ensure the provision of storage redundancy simultaneously.

**Limited Physical Storage Space**

Another issue faced by Hyper-V administrators is what they have to deal with a low physical storage space. A common solution to this problem is the use of virtual had disks that expand **dynamically**. These virtual hard disks are files that behave like physical hard disks when connected to a virtual machine.

A virtual hard disk that expands dynamically is a special **virtual hard disk file** that starts as a small size even if more space is allocated to it. It then grows in size as you add data to it. For instance, by default its size is 127 GB but still utilizes less than 1 GB.

Though using a dynamically expanding virtual hard disk is commonly advised to cater to the problem of storage capacity, there is also one more solution to it. You can check if your physical storage has abandoned virtual hard disks, which sometimes remain after deleting virtual machines through **Hyper-V manager**, and delete the unwanted remnants.

**Host is Unable to Start all Virtual Machines**

If the Hyper-V host’s hardware resources are depleted to the extent where there are no more resources left to start with the Virtual Machines, **the Hyper-V host** becomes unable to start all the Virtual Machines. In order to fix this issue, you must either decrease the VM hardware allocation or add more hardware to host.

Because memory is one of the biggest factors that limits the usage of a virtual machine, administrators commit their memory resources more than the capacity by using the feature of **Hyper-V Dynamic Memory**. Though one has to be careful about over-committing the memory, doing this can actually allow you to increase your Virtual Machine’s density.

**Impractical and Corrupt Checkpoints**

Hyper-V checkpoints are normally validated and reliable. But it happens in many instances that an administrator attempts to put a **Hyper-V checkpoint** and discovers that it was corrupt and inapplicable. Hyper-V checkpoint can become invalid if a virtual hard disk with already existing checkpoints is independently mounted outside the virtual machine.

**Virtual Metric’s Hyper – V Server Monitoring Solution**

[**Virtual Metric’s Hyper-V monitoring**](https://www.virtualmetric.com/hyper-v-monitoring) provides host usage statistics in detail. With a visual presentation of everything including Storage and Free Memory reports, CPU Load and Usage, Storage IOPs and number of Virtual Machines per host, it makes it easy to work with charts and makes the information easily understandable.

To get a demo of how our solution works, try a free 30-day trial [here](https://www.virtualmetric.com/trial).