**hosted hypervisor**

A hypervisor is a firmware that creates virtual machines ,manages and allocates resources to virtual machines.Hosted hypervisor is a type of hypervisor which is installed in operating system such as windows or linux to work.

**Works**

Hypervisors and collections of virtual machines are used for numerous different tasks in a business setting, including data replication, server consolidation, desktop virtualization, and cloud computing.

Desktop virtualization is useful when you want to use a piece of software compatible with one operating system, such as Windows, but you have another operating system, such as Linux or Mac OS, on your machine. With a hypervisor, you can set up a Windows virtual machine to run the software without having to change operating systems.

### Hypervisors for Data Replication

What are the uses of hypervisors and where are they applied? Hypervisors may be used in data services for easy cloning and replication. Hypervisor-based replication is also more cost effective and less complex than current replication methods, especially those involving virtual machines

.Typically, when you want to replicate a virtual machine, you have to replicate its entire volume manually. Using a hypervisor, you can simply choose which virtual machines and parts you want replicated, and it will perform the process for you.

### Hypervisors for consolidating servers

Hypervisors have a graphical dashboard you could work with. They are also plug-able where you can download enhancements. This capability lets you easily consolidate your servers even if they do not have the same operating systems.

If you have a business with multiple servers operating different services for customers over the internet, it can become difficult to centrally manage them all, especially if they run different operating systems. A hypervisor lets you virtualize these servers, then manage them all in one physical machine, so they operate more efficiently. Simply put, you can allocate resources to all the machines, which can, in turn, make better use of the total physical resources you have available, rather than having physical resources sitting idle while they aren’t in use.

### Hypervisors for desktop virtualization

You can use a hypervisor to easily host a virtual desktop on a server. This virtual desktop will be the exact replica of a user's physical desktop. This will allow your employees to be able to work remotely, no matter where they are since they can access their PCs over the Internet, or through a slim client.

### Cloud Computing Security and Hypervisors: Safe?

Now we come to the more important question of whether hypervisors can make cloud computing more secure.

A hypervisor is a natural target for hackers because its designed control all the resources of the hardware while managing all the virtual machines residing on it. The bad news is that a hypervisor is vulnerable to a lot of malicious code, especially those coming from a rogue virtual machine.

Gartner's distinguished analyst, [Neil MacDonald](http://blogs.gartner.com/neil_macdonald/2011/01/26/yes-hypervisors-are-vulnerable/" \o "Hypervisors are vulnerable" \t "https://www.pluralsight.com/blog/it-ops/_blank), writes that 35% of vulnerabilities found in server virtualization were related to the hypervisor. There are a lot of these types of attacks happening, but they are rarely highly publicized.

MacDonald, however, suggests that you should treat your hypervisor as the most sensitive OS in your data center or network. You should know what vulnerabilities exist and make sure that you manage these, as well as the configurations, to make sure that it is secure.

[According to TrendMicro](http://cloud.trendmicro.com/hypervisors-bring-new-capabilities-and-new-risks/" \o "Hypervisors Bring New Capabilities and New Risks" \t "https://www.pluralsight.com/blog/it-ops/_blank), providers such as Microsoft and VMware have also been working to make their hypervisors more secure. The demand for more secure APIs and careful planning for the network can help mitigate the risks.

It will also help to follow industry guidelines and best practices such as [NIST's Virtualization Security Guidelines](http://www.nist.gov/itl/csd/virtual-020111.cfm" \o "Virtualization Security Guidelines" \t "https://www.pluralsight.com/blog/it-ops/_blank).

If you're ready to start practicing with VMs, check these out for engaging videos and a great read:

**Benefit**

One of the main benefits of running virtual machines is if one of them crashes, it doesn’t affect the other virtual machines, or the main physical hardware or OS. This is because, although they use the same physical hardware, they’re logically separate from each other.

Another reason to use a hypervisor and accompanying virtual machines is for security purposes. It creates another layer between your operating system and whatever questionable file you might be downloading or accessing from the internet. Even if the download causes a problem in your virtual machine, your primary OS will be protected by the hypervisor.

**Types**

There are two main types of hypervisor:

1. Native or “bare metal” hypervisors
2. Hosted or “embedded” hypervisors

A bare metal hypervisor is installed directly on the hardware of your machine, whereas a hosted hypervisor is installed on your operating system.

Bare metal hypervisors are typically faster and more efficient because they have direct access to the underlying hardware and don’t need to go through the operating system layer. Since they don’t have to compete with other applications or the OS, they can take all the available physical hardware power and allocate it to virtual machines. They also tend to be more secure, because, without an operating system on the host, less attack surface is available for malicious intruders.

However, hosted hypervisors are significantly easier to set up and get running, as you can use the more user-friendly operating system. They’re often used for testing and development purposes, as they can run on the OS to try out new programs or features without affecting the host OS.

VMware and [Hyper-V](https://www.solarwinds.com/virtualization-manager/use-cases/hyper-v-monitor?CMP=ORG-BLG-DNS" \t "https://www.dnsstuff.com/_blank) are two key examples of hypervisor, with VMware owned by Dell and Hyper-V created by Microsoft. VMware software is made for cloud computing and virtualization, and it can install a hypervisor on your physical servers to allow multiple virtual machines to run at the same time. Hyper-V does the same thing, but you can also virtualize servers. Hyper-V comes pre-installed with Windows 10. Both are bare metal (native) hypervisors. Oracle VM VirtualBox is a hosted hypervisor.