

Difference between virtualization and emulator

To many people, emulation and virtualization seem the same, but there are actually some differences between the two. When a device is emulated, a software-based architecture replaces a hardware component.

It is possible to run a complete virtual machine on an emulator server. However, virtualization makes it possible for the virtual machine to run directly on the hardware without the need to apply the processing cycles needed to emulate the hardware.

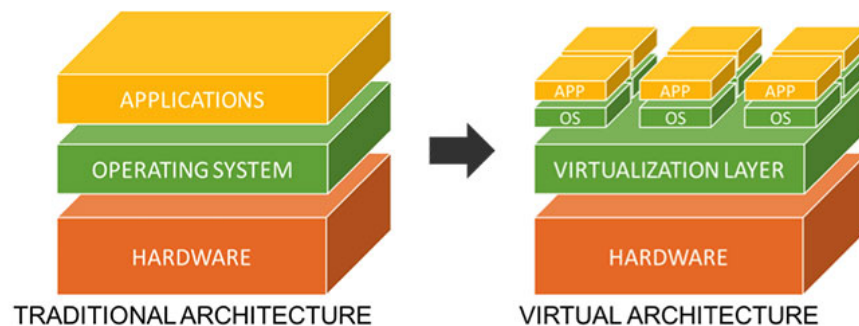
What is virtualization?

Virtualization divides a physical computer into multiple "virtual" servers. Virtual machines (VM) operate on dedicated hardware that is independent of each other.

With virtualization, you divide a physical system into different independent environments, called virtual machines. It helps you create many computer emulation processes with dedicated resources from the server hardware.

The capabilities of a host-based system architecture (SBSA) resemble the host system with the help of a hypervisor or VMM (Virtual Machine Monitor).

Virtualization has more possibilities and levels of execution.

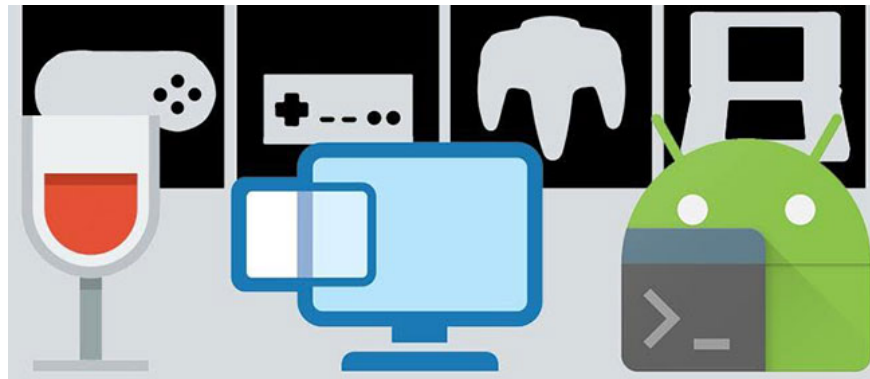


What is emulator?

Emulator is a concept of creating an environment that mimics the properties of one system on another. An emulator mimics the quality and logic of one processor to run in another efficiently.

Emulators are a great way to run an operating system or software in any other system. Emulators have advantages such as low cost, easy access and help run outdated programs in the existing system.

The emulator converts the necessary architecture CPU instructions and successfully runs it on a different architecture. Anyone can access the emulator platforms remotely and are easier to use.



The main difference between virtualization and emulator

Unlike in virtualization, the emulation process requires a software bridge. In virtualization, you can directly access the hardware.

The main difference between a virtual machine and an emulator is that the virtual machine runs code directly against a different domain group in the language used.

The basic emulator requires an interpreter. This interpreter translates the source code and converts the source code into the host system's readable format for further processing.

In contrast, in emulators, the guest operating system does not run on physical hardware. The emulator is slower than the virtual machine. The emulator does not rely on CPU while the virtual machine uses the CPU.

Unlike emulators, virtualization places a physical layer between hardware to control access to it. This helps to share resources between the clients, because virtualization allows you to access server resources.

Virtual machines directly use the resources of the central system. In addition, the VM solution is more expensive and complex than the emulator technique. But virtualization offers more throughput, has a minimal cost, and a better backup and recovery solution.

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