

# Virtual Private Server (VPS) Hosting

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A virtual private server (VPS) is a method of splitting a server. Each virtual server can run its own full-fledged operating system, and each server can be independently rebooted.

The physical server typically runs a hypervisor which is tasked with creating, destroying, and managing the resources of "guest" operating systems, or virtual machines. These guest operating systems are allocated a share of resources of the physical server, typically in a manner in which the guest is not aware of any other physical resources save for those allocated to it by the hypervisor.

In a fully virtualized environment, the guest is presented with an emulated or virtualized set of hardware and is unaware that this hardware is not strictly physical. The hypervisor in this case must translate, map, and convert requests from the guest system into the appropriate resource requests on the host, resulting in significant overhead. Almost all systems can be virtualized using this method, as it requires no modification of the operating system, however a CPU supporting virtualization is required for most hypervisors that perform full virtualization.

## Benefits of Virtual Private Server

Virtual private servers bridge the gap between shared web hosting services and dedicated hosting services, giving independence from other customers of the VPS service in software terms but at less cost than a physical dedicated server. As a VPS runs its own copy of its operating system, customers have superuser-level access to that operating system instance, and can install almost any software that runs on the OS. Certain software does not run well in a virtualized environment, including firewalls, anti-virus clients, and indeed virtualizers themselves; some VPS providers place further restrictions, but they are generally lax compared to those in shared hosting environments. Due to the number of virtualization clients typically running on a single machine, a VPS generally has limited processor time, RAM, and disk space.

Due to their isolated nature, VPSs (virtual private servers) have become common sandboxes for possibly-insecure public services or update testing. For example, a single physical server might have two virtual private servers running: one hosting the production-level (live) website, and a second which houses a copy of it. When updates to crucial parts of software need to be made, they can be tested in the second VPS, allowing for detailed testing to be conducted without requiring several physical servers.

Virtual private servers are also sometimes employed as honeypots, allowing a machine to deliberately run software with known security flaws without endangering the rest of the server. Multiple honeypots can be quickly set up via VPSs (virtual private servers) in this fashion.

## Virtual Private Server Hosting

A growing number of companies offer virtual private server hosting, or virtual dedicated server hosting as an extension for web hosting services. Some web hosting companies call a Virtual Private Server a Virtual Dedicated Server/Dynamic Dedicated Server or the other way around.

- Unmanaged Hosting - The customer is left to monitor and administer their own server.
- Unmetered Hosting - Similar to unmanaged hosting but a fixed bitrate is offered so that it is not possible to exceed a monthly budget.