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Title: Flexibility, Security and Control for Your Virtual Servers on VMware

The difference between VMware and Virtuozzo Containers is more than just the name. Only hosting companies using VMware can offer complete flexibility, security and capacity, as well as options for high availability, load balancing and disaster recovery.

OS Flexibility

A basic difference between VMware and Virtuozzo is that VMware creates individual virtual servers directly on the hardware, at a bare metal level, while Virtuozzo's containers run at the operating system (OS) level.

All container environments running on the same physical hardware must share the same host operating system. This means that while each environment can run its own *client* OS, the one you can run on your virtual environment will be limited to those that are compatible with the host. Virtuozzo is limited to Linux or Windows at both the host and client level, and can only run a client OS on a physical server that uses the same host OS; in other words, a Linux client on a Linux host, and a Windows client on a Windows host. Of course, limiting the operating system also limits your choice of software to that available for Linux and Windows.

Running at the hardware level, VMware accomplishes virtualization by using a physical machine's hardware resources to serve multiple virtual servers, each of which can run an independent operating system. In this way, VMware virtualization supports many diverse operating systems on any server system. This allows VMware to support a variety of Windows versions and many different flavors of Linux, including Ubuntu, SuSE, and Red Hat, as well as non-Windows and Linux operating systems such as Solaris and Netware.

With Virtuozzo, because your virtual environment must run the same OS as the host, you don't have the option to manage and modify your own operating system. The need for uniformity extends to updates—all environments must run at the same patch level. That means that if your virtual environment's software has not been optimized for the latest Windows or Linux update, and your hosting company installs it (on the host system and across all virtual environments), your software may function poorly, or not at all.

With VMware, you can manage and modify your own operating system, as well as run different patch levels than the host system. This offers your company installation and update control on your virtual servers, and the freedom to use an extended range of software, software releases, and even multiple software flavors on the same OS, such as SQL Standard, Web and Express editions.

In Virtuozzo's containers, when you need to reboot your virtual environment, such as during a test phase, you'll have to wait for a scheduled system outage for the entire

physical server, chaining you to your hosting company's calendar. Using VMware, you can reboot your operating system when and as often as your situation requires.

Finally, a hardware-based virtual server like VMware offers something an OS-based virtual environment does not and cannot offer—virtual memory. Virtual memory, called swap in Unix or page file in Windows, allows your applications to use an assigned piece of disk space as working memory when necessary to avoid crashing. Because all container environments share an operating system core, containers don't have independent access to swap. Using VMware, your hosting provider can give you swap space or a paging file as large as that available on a physical server.

Security

Virtual environments that all run the same operating system are more vulnerable to both security breaches and simultaneous code faults. If the virtual servers on a hosting physical server are all running one operating system, and any of the operating systems are hacked, then they all are; if the host operating system experiences a failure due to a bug in the software, then they all do. This is not the kind of virtual server environment you can depend on to failover gracefully or recover quickly.

In a Virtuozzo environment, security is complicated by the need for OS patches to be certified by the company. That means that when a critical operating system patch is released, the patch must go through another layer of complexity and time before it is applied—time in which your virtual server could be vulnerable. If your servers are hosted on VMware, you can apply patches as soon as they are released.

On-Demand Capacity

Because a VMware virtual server can operate on any physical server in the network, and because VMware supports live migration or vMotion, your whole virtual server can be moved as needed to another piece of hardware—with no downtime. This saves your company data and time, and it could save you customers and money. It also means that when your hosting company needs to take a physical server down for maintenance or replacement, you never need to know. Unlike in an OS virtual environment, live migration will allow your virtual server to continue running on the hosting company's other servers. This is a feature that Virtuozzo still does not have.

High Availability, Load Balancing and Disaster Recovery Options

VMware virtual server lets your hosting company offer high availability, load balancing, and disaster recovery, unlike OS virtual environments. With VMware, your hosting company can offer load balancing, so your workload can run on the physical server that suits your needs during peak times.

With an OS-level environment, it might be impossible to move live data from one server to another. Even with compatible operating systems, the server might require a reboot.

When You're Looking for Virtual Server Hosting, Think [company name]

Virtual Server platforms aren't all the same, and your hosting company needs to use the most flexible, secure and available virtualization technology. VMware, which runs virtual servers at the hardware level, is that technology.

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