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What is Application & Server Virtualisation?

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The Business, Technology, Innovation and Digital Media Blog.



What is Application & Server Virtualisation?

Virtualisation, in the computing sense of the word, is all about abstraction. Abstraction takes out all the concrete details and substitutes something else in its place.

Application virtualisation, specifically, is about encapsulating software programs from the underlying operating system on which they operate. Virtualised applications are not installed as such. They are tricked into thinking they are directly connected to an OS in the traditional sense. A "virtualisation layer" is installed in the operating system to intercept all OS operations the application would normally call. The virtualised application knows nothing about this virtualisation layer. For example, when an application invokes a file access operation, the virtualisation layer would catch this and perform some operation in lieu of a standard file access call.

With application virtualisation you can run in environments that are unsuitable for the native application. You protect your OS and other apps from bugs in the virtualised application. You can run incompatible applications next to each other with minimal problems.

A few of the key players in application virtualisation are VMware, Microsoft, and Citrix. Below you will find a brief summary of what each one offers:

VMware ThinApp

Thin App claims to package an entire application and its settings into a single executable that is isolated from the operating system. You can run apps from any media without the need for administrator privileges. ThinApp can maximise uptime during application migration and update. With ThinApp you package once and deploy everywhere.

Microsoft Application Virtualisation

Microsoft's application virtualisation solution streams applications on-demand over the Internet or via the corporate network to desktops, terminal servers and laptops. Their solution automates and simplifies the application management lifecycle. Furthermore, it accelerates OS and application deployments by reducing the image footprint.

Such technology reduces problems end users experience when applications are upgraded, patched, and/or terminated. It does not require any rebooting. There is zero wait time for application installation and no un-installations are required when the application is retired from duty. This enables controlled application use when users are completely disconnected.

Given this new technology, Microsoft now claims that "application environments are no longer machine specific, and machines are no longer user-specific".

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Citrix XenDesktop

Citrix XenDesktop claims to be able to centralise applications in a data center to reduce costs, control/encrypt data access and apps to improve security, and instantly deliver apps to users anywhere in the world.

Installfree.com

Installfree, a relatively new competitor in the virtualisation world, claims their products can eliminate complexity, increase portability & mobile computing, and achieve application compatibility. With their solution, IT departments can end temporary workarounds, employee productivity loss, and application conflicts.

So much for application virtualisation. What about server virtualisation? With server virtualisation, the entire operating system and its accompanying applications are abstracted. All applications and system software have access to a virtualisation layer and have no idea they are not connected to a traditional OS and physical hardware. Basically, each Virtual Private Server (VPS) runs a copy of its own OS. Customers have direct super user (administrator) access.

Server virtualisation bridges the gap between "shared web hosting services" and "dedicated hosting services". It provides independence to customers with regards to software but costs much less than physical dedicated server. Customers are free to deploy whatever software they choose, as all performance and security risks are confined to their individual VPS space. This is not only useful for production but can be used to test new software. A so-called "sandbox" is created within a VPS in order to perform testing and debugging. Security issues can be explored and investigated in a "honeypot", a VPS purposely set up with flawed/buggy code in order to observe security risks.

Essentially, application virtualisation virtualises application software, whereas server virtualisation virtualises the machine. Each solution has its unique benefits and drawbacks. It is up to your IT department to find the right technology for the task.

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