

By Debra Littlejohn Shinder, MCSE, MVP

Virtualization is one of the hottest topics in IT these days, but the technology brings with it new terminology that can be confusing. Here are some common virtualization-related terms and their meanings.

- **AMD-V:** AMD's implementation of virtualization hardware assist built into their processors.
- **Bare metal hypervisor:** Virtualization platform that runs directly on the hardware and does not require a separate host operating system. Examples are Hyper-V, ESX Server, and Citrix XenServer.
- **Child operating system:** Another term for the guest operating system that runs in a VM on top of the parent or host OS.
- **Cloning:** The ability to create copies of a virtual machine in a single installation and configuration process.
- **ESX Server:** VMWare's "bare metal" hypervisor software that is the foundation of the VMWare Infrastructure 3 suite, which includes VM management tools and reliability services.
- **Fullscreen mode:** Viewing mode in which the guest operating system takes up an entire physical monitor.
- **Fully virtual:** A VM that completely emulates all hardware devices.
- **Grab:** To direct the input of your keyboard, pointing device, etc., into a virtual machine (usually by clicking in the VM's console window).
- **Guest clustering:** Clustering of virtual machines within the same node (a shared SCSI adapter) or across different nodes (iSCSI or fibre channel SAN).
- **Guest operating system:** An operating system installed in a virtual machine.
- **Hardware assist:** Technology by which the computer's physical processor allows software to specify instructions to make those instructions virtualizable and take advantage of offloading to system hardware. Intel's VT and AMD's AMD-V support hardware assist.
- **Host operating system:** The base operating system installed on a physical machine, on top of which the guest operating systems are installed in virtual machines, and which interacts with the hardware.
- **Hosted hypervisor:** Virtualization software that runs on a host operating system and on which virtual machines run. Examples are Microsoft's Virtual PC and Virtual Server, VMWare's VMWare Server (formerly GSX Server), and VMWare Workstation and Parallels Desktop.
- **Hyper-V:** Microsoft's 64-bit hypervisor-based virtualization technology, formerly known as Viridian and included in x64 editions of Windows Server 2008 or available as a free standalone version called Microsoft Hyper-V Server 2008.
- **Hypervisor:** A virtualization platform that enables running multiple operating systems on the same physical computer, also known as a virtual machine monitor (VMM).
- **Native operating system:** An OS that is not optimized for the virtual machine environment.
- **Oracle VM:** Free server virtualization that supports Linux and Windows guests and is based on the Xen open source hypervisor.

- **Paravirtualization:** Virtualization technology by which the software interface presented to the virtual machines is not identical to the underlying hardware. (For example, a virtual network adapter may have capabilities that the physical NIC doesn't have.)
- **Parent operating system:** Another term for the host or underlying operating system on which the virtualization software runs.
- **Sandboxing:** Running an operating system or application in a VM for security reasons, because it is not trusted.
- **Single window mode:** Viewing mode in which the guest operating system appears in a window on the desktop of the host OS.
- **Snapshot:** An image of the state of a virtual machine at a specific point in time that includes all the data plus the configuration information for the VM, to allow you to return to that state in the future after changes have been made.
- **Soft ungrab:** Automatic switch of input from the VM to the host OS, as when the pointing device's pointer moves out of the VM window.
- **Synthetic devices:** A new concept in Hyper-V that provides a lower overhead for devices than emulated devices.
- **Type 1 hypervisor:** A bare metal hypervisor.
- **Type 2 hypervisor:** Hosted VMs.
- **Unity:** In VMWare, a viewing mode whereby applications running on the guest OS appear as application windows on the host OS desktop as if they were running on the host OS.
- **.VHD:** Virtual Hard Disk; the file format used by Microsoft for a file that holds the data on disk for a specific VM (guest or child operating system and the applications installed on it).
- **Virtual appliance:** A virtual machine with a fully preinstalled and preconfigured OS image, usually hosting a single application.
- **Virtual hardware emulation:** Software implementations of hardware devices that may be mapped to the computer's physical hardware devices.
- **Virtual machine (VM):** A software implementation of a computer that behaves like and appears to the network like a separate physical machine, but that can be one of multiple virtual machines running on the same physical machine.
- **Virtual machine monitor:** A software layer by which multiple operating systems running in VMs are isolated from each other, also known as a hypervisor.
- **Virtual switch:** Software implementations of networking entities that connect virtual machines in a virtual network at Layer 2 of the OSI model.
- **.VMDK:** Virtual Machine Disk format; the file format used by VMWare to hold the virtual machine image for each VM (guest or child operating system and the applications installed on it).
- **VT:** Intel's implementation of virtualization hardware assist built into its processors.
- **WSv:** Windows Server virtualization based on Hyper-V, as implemented in Windows Server 2008.
- **XenServer:** Citrix's enterprise virtualization platform based on the open source Xen hypervisor.

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