

Chapter 10

Hands-On Xen: Installation Guide for Xen Server

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ABSTRACT

Xen is an open source virtualization framework in distributed system based on rapid elasticity on broad network access. It is a cost-effective platform for resource pooling and allows easy access to run any code any time from everywhere by any user. It is a hypervisor using a microkernel design, provides services that allow multiple operating systems to execute on the same computer concurrently. In other words, the hypervisor was made accessible to the world directly from any location, anticipating a fully virtualized cloud base environment, which is turned into cloud computing.

1. INTRODUCTION

The word Xen (pronounced /ˈzɛn/) with origin in the ancient Greek term Xenos (ξένος), means to refer the guest families whose relationship come under the ritual of Xenia (“guest-friendship”) (XenServer, 2016). This term played a vital role to give the idea of guest/host operating, SaaS and community cloud. The Xen Hypervisor Project was designed and developed by Cambridge University for the XenoServers Project as a mechanism to divide up the single physical resource into multiple

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logical views of computing resources as a multi-tenancy and to control the hardware, managing resources and auditing the accountability to improve the performance of the cloud services. Xen is a graphical user interface based on Windows. XenCenter facilitates the pooling and sharing storage, hosting of XenServer. It also manages, monitors and deploys the Windows-based desktop machine. The original website was created in 2003 to permit a global community of developers to contribute and improve the hypervisor. The community supported project followed multiple principles: Transparency, Open Standards, Consensus Decision Making support, and Meritocracy (Xenserver 7.10 Standard Edition, n. d.).

Two commercial copies of XenServer 7.0 are:

- Enterprise
- Standard

The basic and standard edition is entry level commercial contributes a wide range of properties suitable to the needs of customers with high performances of virtualization platforms, no requirement of top level principles by the Enterprise edition, while still desiring to take benefits from the guarantee of full Citrix support, control and maintenance. The Enterprise edition is top best enhanced for both desktop, Server and cloud workloads.

The end users with the first time XenApp or XenDesktop may continue to have the privilege of XenServer containing all the principles and properties within the standard and many of those from the Enterprise edition that includes:

- Automatic updating virtual machine driver for windows
- Automated updates of Management agent
- SMB storage support
- APIs Directly Examine
- Dynamic Balance of workloads
- Intel GVT-g and GPU Virtualization (vGPU) with NVIDIA GRID
- Transformation services from VMware vSphere to XenServer
- Intel Secure Measured Boot (TXT)
- Exportation of Data Resource Pooling
- Read caching in-memory

XenServer can directly installs on bare-metal hardware without any restriction, overhead charge and performance obstacles of an Operating System. Device drivers for Linux kernel are used by means of XenServer. As the performance and production, it is capable to run on a wide range of storage devices and hardware.

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