

1. The best hypervisors for infrastructure virtualization are Citrix XenServer, Microsoft Hyper-V, Red Hat KVM and VMware vSphere.
 - 1.1. **Citrix Hypervisor** is a comprehensive server virtualization platform with enterprise-class features built in to easily handle different workload types, mixed operating systems and storage or networking configurations. For the most demanding app, and desktop virtualization use cases, its industry-leading scalability and performance under load, can cater to the largest Citrix Virtual Apps and Desktops deployments. IT gets the benefit of features unique to Citrix Hypervisor, such as enhanced virtualized graphics with NVIDIA and Intel, and enhanced workload security with Direct Inspect APIs, all of which reduce virtual infrastructure costs and complexity.
 - 1.2. **Hyper-V** is Microsoft's hardware virtualization product. It lets you create and run a software version of a computer, called a virtual machine. Each virtual machine acts like a complete computer, running an operating system and programs. When you need computing resources, virtual machines give you more flexibility, help save time and money, and are a more efficient way to use hardware than just running one operating system on physical hardware. Hyper-V runs each virtual machine in its own isolated space, which means you can run more than one virtual machine on the same hardware at the same time. You might want to do this to avoid problems such as a crash affecting the other workloads, or to give different people, groups or services access to different systems.
 - 1.3. **Kernel-based Virtual Machine (KVM)** is an open source virtualization technology built into Linux®. Specifically, KVM lets you turn Linux into a hypervisor that allows a host machine to run multiple, isolated virtual environments called guests or virtual machines (VMs). KVM converts Linux into a type-1 (bare-metal) hypervisor. All hypervisors need some operating system-level components—such as a memory manager, process scheduler, input/output (I/O) stack, device drivers, security manager, a network stack, and more—to run VMs. KVM has all these components because it's part of the Linux kernel. Every VM is implemented as a regular Linux process, scheduled by the standard Linux scheduler, with dedicated virtual hardware like a network card, graphics adapter, CPU(s), memory, and disks.
 - 1.4. **VMware vSphere** is VMware's virtualization platform, which transforms data centers into aggregated computing infrastructures that include CPU, storage, and networking resources. vSphere manages these infrastructures as a unified operating environment, and provides you with the tools to administer the data centers that participate in that environment. The two core components of vSphere are ESXi and vCenter Server. ESXi is the virtualization platform where you create and run virtual machines and virtual appliances. vCenter Server is the service through which you manage multiple hosts connected in a network and pool host resources.

2. The main differences of hypervisors are described in table below:

Feature	Hyper-V 2019 (gen 2)	VMware vSphere 6.7	Citrix Hypervisor 8.1	KVM (RHV 4.3)
RAM/Host	24TB	12TB	5TB	12TB
Logical CPU/Host	Unlimited	768	288	768
RAM/VM	12TB	6TB	1.5TB	10TB
CPUs/VM	240	256	32	384
VM Disk	64TB (VHDX)	62TB	16TB (GFS2)	8TB
Overcommit resources	NO	YES	NO	YES
NIC/VM	8	10	7	28