

VSA 800

Virtualization Appliance

The Virtual Machine Company provides ready to use Virtualization appliances: high-performance, cost- & energy-efficient virtualization solutions for the 21st century data centre. Our Rack-and-Roll™ appliances can be in your rack and accepting new virtual machines in a matter of minutes.



Performance

The Virtualization Appliances' tight integration of software & hardware is tuned to maximise performance gains. Key virtualization enablers are used: processor integrated MMU, allowing direct processor-to-memory access and spread process load across all available cores and memory. "Tagged Translation Lookaside Buffering" facilitates applications that demand a high level of user or process concurrence. "Nested Page Tables" allow VMs to directly manage virtual memory on-chip, reducing VM switching overheads by up to 25%. Alongside other custom software & utilities that accelerate in-box processes such as VM switching, cache management policy and virtual memory management, it becomes clear why the Virtual Machine Company's VSA Virtualization Appliances deliver the ultimate in virtualization computing.

In-box Scaling & Field Upgrades

No need to scrap the hardware every few years: the Virtualization Appliance is designed to be field-upgradeable, protecting your capital investment with in-box scaling. As your requirements grow and the performance of server components increases, we intend to keep offering upgrades that will boost the power and performance of your existing systems for as long as it is practical to do so, without affecting your warranty or support agreements.

Rack Density & Environmental Focus

Space and power are valuable commodities, particularly within major cities. The Virtualization Appliance packs a lot of punch into a small package and while blades may offer greater core density, at just 2U high the VSA's small size, large memory capacity and upgradable multi-core capability deliver superior virtual machine density. As a diskless, single board appliance, with two of the world's most efficient, fully redundant PSUs onboard, it is also cheaper to power and cool.

Ease Of Deployment

Each Virtualization Appliance is shipped with a turnkey setup, pre-installed hypervisor and essential networking and storage configuration. Virtual Machine Company partners offer an on-site installation service where certified engineers will fully integrate the appliance with your networking and storage, before handing it over to in-house systems managers. Racked and rolling in just a few minutes your new appliance will join your existing virtualization pool and quickly be ready to accept your business critical VMs.

Virtual Estate Manager

When you've consolidated 50 physical machines down to 2, you still have 50 virtual machines to manage – to help you gain the maximum return on your investment in virtualization, Virtual Estate Manager provides performance monitoring, capacity management and planning tools that ensure the optimum configuration of your virtual server estate.

In-Cloud Services

Take advantage of our unique In-Cloud services that watch over your servers 24/7, ensuring that they are performing to their maximum capability. At our In-Cloud Hotel we can even offer your VMs a place to hang out and a bed for the night...



Virtual Machine Company VSA Specifications

CPU	64-bit cores, upto 24 ⁽¹⁾ per node, 336 ⁽¹⁾ per cabinet*
Cache	L1 64KB Data, 64KB Instruction per core. L2 512KB per core. L3 6MB (shared by 4 cores), L3 24MB per node
FLOPS	7 Teraflops per cabinet
CPU Interconnect	Packet-based point-to-point
Main Memory	Upto 256GB Registered ECC SDRAM per node, 5367GB per cabinet*
Memory Bandwidth	51.2GB/s ⁽³⁾
Node Interconnect	2D Torus, Hub, Fat Tree, Gigabit Ethernet x6 bonded or singular
External I/O Interface	Gigabit Ethernet x6, 10 Gigabit Ethernet ⁽²⁾ , Fiber Channel(FC) ⁽²⁾ , Out of band management NIC
Local Storage	Solid State 0.1ms read access time
Shared Storage Support	iSCSI, Fiber Channel, NFS, SAN or NAS
File System	LVM, VMFS, NFS
Administration	Virtual Estate Infrastructure Management (web GUI) Hypervisor Management Console (XenCenter, vCenter)
Reliability Features	Out of band management interface with 100Mb/s dedicated fabric
(Hardware)	>20 system health measurement points per node ECC Protected RAM with ChipKill™ CPU thermal protection Redundant, variable-speed, axial fans with integrated pressure and temperature sensors Redundant power supplies
(Software)	VMCO Infrastructure Management (web GUI) Software High Availability for critical VMs ⁽⁴⁾
Integrated Hypervisor	Choice of VMware ESXi or ESX, Citrix XenServer Type-1 Hypervisors
Power	450W per appliance, 8.4KW per cabinet*
Cooling Requirements	Air cooled, air flow ⁽⁵⁾ 253 cfm per node; 5300 cfm per cabinet; intake: front; exhaust: back 84.3 CFM 53db (at max speed)
Dimensions	Height 89mm, Width 437mm, Depth 709mm
Weight	25.1kg per node (gross)
Acoustic Noise Level	75 dba at 3.3 ft (1.0 m)
Regulatory Compliance	RoHS, WEEE
Safety	USA - UL listed, Canada - CUL listed, Germany - TUV Certified, EN 60950/IEC 60950-Compliant, CB Report, CCC Certification
Operating Environment	10°C to 35°C, 8% to 90% humidity (non-condensing)

(*) Assumes standard 42U Racks with sufficient power and cooling

(1) 24 cores per node and 504 per cabinet, autumn 2009

(2) Option

(3) 16 core, 4 processor system

(4) Precise functionality dependent on hypervisor

(5) At maximum speed setting



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