

VMC 1200 Series



VMC 1200 Series Virtualization Appliance for VMware

Hyper-dense virtualization is about running even more workloads on even fewer machines, slashing the cost of data centre power & cooling even further and saving money on software licensing, support contracts and physical infrastructure.

The VMC Virtualization Appliance for VMware ESX and ESXi is a tight, highly tuned integration of the world's fastest commercially available server appliance and VMware's enterprise class hypervisor; bringing the disciplines of high-performance computing to the world of data centre virtualization, enabling you to realize the fullest potential of Hyper-dense virtualization right out-of-the-box.

world's most powerful and cost effective server virtualization appliances

At the Virtual Machine Company we design and create the world's most powerful and cost effective server virtualization appliances. Conceived from the initial formation of our company to deliver exceptional performance in the most energy efficient format achievable. Our unique VMware virtualization appliance not only has the lowest power consumption of any machine in its class, but has the highest performance – delivering 24 CPU cores and up to 384Gb of RAM in a 1U package and it is the only virtualization appliance that can access the maximum data-rate across the full complement of DDR3 RAM installed.

When asked what that means in real terms one customer replied **“simple, it means twice as much capacity in half the space, and, a massive saving in operational costs”**. Actually it goes beyond that initial saving as a VMC appliance based solution can typically be delivered on 40% less hardware, infrastructure and software licenses crunching your service delivery costs down even further.

The VMC Virtualization Appliance for VMware is 100% compatible with VMware's range of applications and tools making it easier to integrate into your existing environment.



The VMC Advantage

Faster, smaller & cheaper to run, without compromising performance. Virtual Machine Company bring the disciplines of High Performance Computing to Virtualization.

The world's most powerful VMware Appliance

- 100% compatible with VMware ESX and ESXi
- Can be installed and accepting VMs in minutes
- Can run twice the number of VMs
- Is over 40% more energy efficient
- Processes data 80-140% faster
- Loads and switch VMs up to 100% faster
- Software tools that protect & enhance your virtualization investment

VMC Virtualization Appliance that can:

- Save at least a third on your annual power & cooling costs
- More than double the number of users/workloads per rack
- More than halve 3-year total cost of ownership
- Slash the cost of software licensing and support conference
- Optimise existing resources & forecast future system requirements

The VMware logo, consisting of the word 'vmware' in a lowercase, sans-serif font, with a registered trademark symbol (®) to the right.



Performance

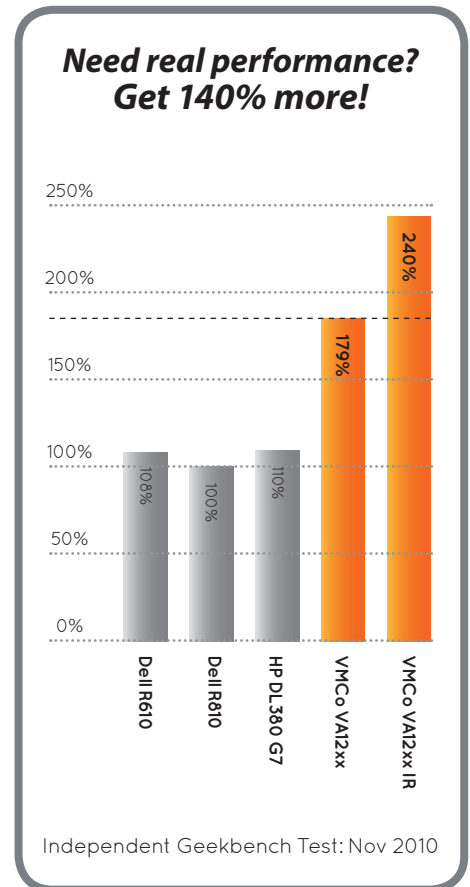
Inspired by HPC we expel the myth that you can either have performance or you can have density but you cannot both. We specially select, build and tune our appliances from the highest quality hardware components to eradicate system contention, streamline & accelerate internal processes and improve the performance of network and storage IO. Key virtualization enablers are employed to accelerate the internal processes of the system; direct processor-to-memory access spreads process load across all available cores and memory, and by enabling VMs to directly manage virtual memory on-chip we are able to reduce switching overheads by up to 50% even for applications that demand the highest levels of user or process concurrence. VMC appliances are unique as they are designed up to a performance specification that meets your needs, not down to a price that meets our stockholders expectations.

Energy Efficiency & Computing Density – Space and power are valuable commodities, particularly within major cities. The VMC Appliance for VMware packs a lot of virtualization punch into a small package, and while blades may offer greater core density, the Server Appliances small size, large memory capacity and multi-core capability delivers astonishing virtual machine density, slashing power bills and total cost of ownership.

With every component chosen to deliver energy efficiency without compromising performance; a standard 24 Core, 192Gb system delivers the performance of an HPC platform whilst consuming less than 307 W (1.43A) flat-out. Making the VMC Virtualization Appliance both the most powerful AND the most energy efficient machine in it's class.

Ease Of Deployment – Each Appliance is shipped with a ready to license turnkey setup, pre-installed hypervisor, and essential networking and storage configured. VMC 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 server virtualization appliance will join your existing virtualization pool and quickly be ready to accept your business critical VMs.

Field Service & Support – Quality is a watchword for VMC but should an appliance suffer a hardware failure, systems have a 5-year next business day on-site contract available, upgradeable to 24 x 7 in geographies where that can realistically be achieved.



The Virtual Machine Company Ltd.

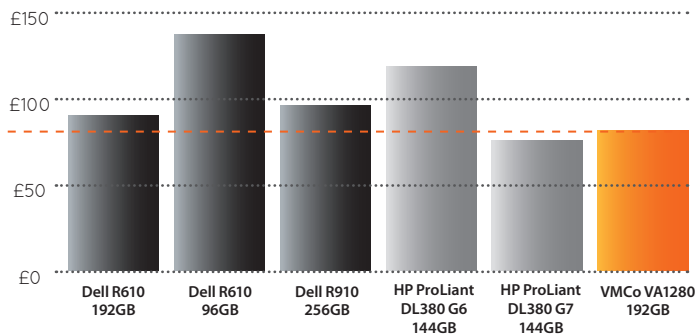
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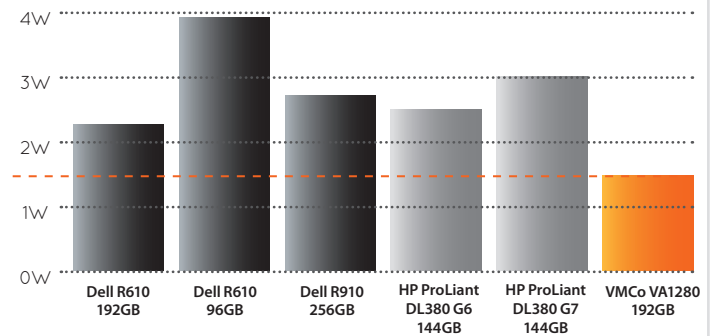
Capital Expenditure

£ Per Gigabyte of Memory Deployed



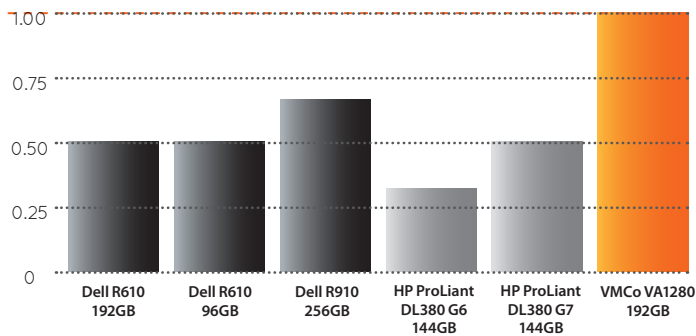
Power Consumption

Watts Per Gigabyte of Memory Deployed



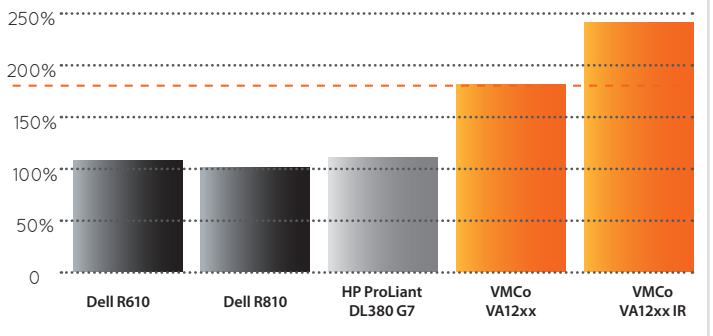
Relative Performance

Physical CPU Cores



True Performance

Independent Geekbench Test:
November 2010



	Dell R610 192GB	Dell R610 96GB	Dell R910 256GB	HP ProLiant DL380 G6 144GB	HP ProLiant DL380 G7 144GB	VMCo VA1280 192GB
RAM/GB	192	96	256	144	144	192
RAM speed/MHz	800	1333	1066	1066	1333	1333
Cores	12	12	16	8	12	24
NICs As Standard	2	2	8	2	4	8
Power Consumption/W	430	378	727	358.65	432	307
Power Consumption/A	2	1.8	3.4	1.5	1.8	1.43
Size/U	1	1	4	2	2	1

Disclaimer & Further Information

Power measurements were taken using an in-line digital power meter at 25C and a 240V mains supply. Systems were running a CPU & Memory test "stressapptest" with arguments "-W -l logfile -s 86400" and maximum power use was reported. Prices are manufacturers retail prices quoted from their respective UK web sites for similar configurations (NICs, Disks, Lights Out Management). Pricing is correct as of July 2010.

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Virtual Machine Company VSA Specifications

CPU	64-bit cores, 24 per node, 1,008 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	12-20 Teraflops per cabinet
CPU Interconnect	Packet-based point-to-point
Main Memory	Upto 384GB Registered ECC SDRAM per node, 16,128GB per cabinet*
Memory Bandwidth	85.6GB/s
Node Interconnect	2D Torus, Hub, Fat Tree, Gigabit Ethernet x8 bonded or singular
External I/O Interface	Gigabit Ethernet x8, 10 Gigabit Ethernet ⁽²⁾ , Fiber Channel(FC) ⁽²⁾ , Infiniband ⁽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 Manager (web GUI) Hypervisor Management Console (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)	VMC Infrastructure Management (web GUI) Software High Availability for critical VMs ⁽⁴⁾
Integrated Hypervisor	VMware ESX or ESXi Type-1 Hypervisors
Power	Peak 307w (1.43A), Idle 119w (0.6A) per node ⁽⁵⁾
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	1U - Height 43mm, Width 437mm, Depth 709mm
Weight	18.1kg per node (gross)
Acoustic Noise Level	53dBA 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, November 2010

(2) Option

(4) At maximum speed setting

(5) Measurements at 240v



Authorised Distributor:

