

White Paper

Virtual Machine Company: Overcoming 5 key barriers to virtualization

Introduction

As virtualization has grown in popularity and acceptance in IT departments around the world, technology professionals have paid increasing attention. Most IT experts understand that virtualization offers increased flexibility, lower costs (both in hardware and cost of power), reduced footprints and better use of resources.

Yet there remains a sense of mistrust over virtualization. Many organisations have recognised its multiple benefits, but have yet to realise them. This white paper sets out how companies can overcome the 5 key barriers to implementing virtualization. It looks at some common misapprehensions, and at recent advances in the technology which make it ever more appropriate to contemporary business.

The 5 Key Barriers

1. Price

People think that virtualization is too expensive. Where the platform is poorly chosen it can be. Inappropriate hardware can double the price, and unnecessary money isn't only wasted on hardware. Bad platform choice often means unnecessary extra spend on infrastructure, software license fees, support contracts and additional management software to keep it all under control. That's before you even get into power, cooling and operational overheads.

2. Skills

Virtualization is another layer of complexity, perhaps several layers if you include the networking and storage underneath, and that means it gets difficult to diagnose problems, and thus requires investment in new skills. Furthermore, as the demand for virtualisation skills booms it is becoming increasingly difficult to find employees with solid virtualization experience. When found, they are expensive and hard to retain, particularly as many prefer to remain consultants.

3. Psychology

Some mistrust the concept of virtualization because virtualization consolidates risk. Being unable to 'see' into the guts of the technology, they have a (not unreasonable) fear that if the system goes down, it will cause more damage than individual machines malfunctioning. For this reason consolidation ratios are kept low at an average of 6-8 VMs per physical server and their use is limited to DR, pre-production testing, support and services where high levels of availability are not critical.

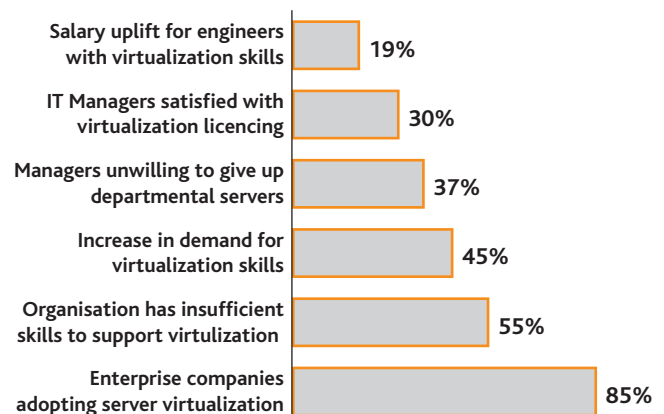
4. Technical support

Where the various components of a virtualization system come from different suppliers, there is a suspicion that support will be equally diverse (and therefore hard to access).

5. Technical services

Some fear that business disruption will be severe if there is a mechanical fault which cannot be quickly remedied. History has shown that hardware is not always as reliable as you would like, and that vendors are not always as responsive as they could be, especially when a server or some of its components are 'end-of-life'.

Fig 1: Perceived barriers to adoption of Virtualization



Sources: IDC, Gartner group 2009, VMWare, Free-form Dynamics 2010

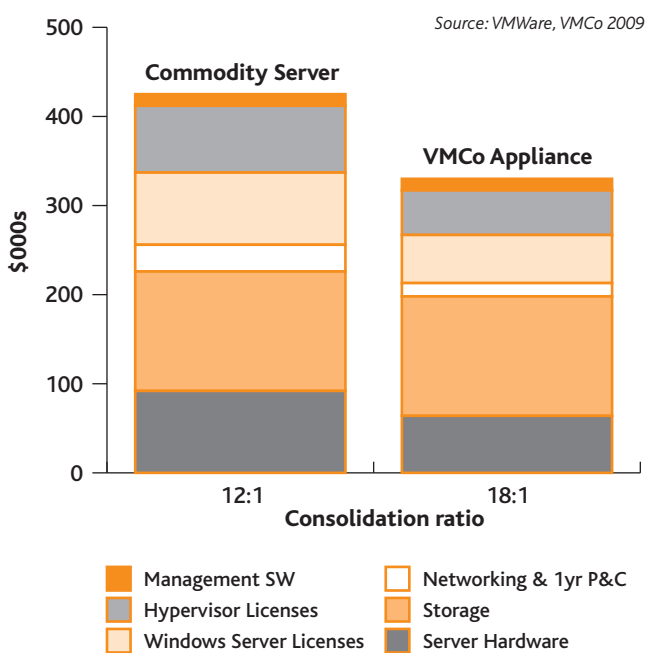
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The 5 Solutions

1. Price

Conservatively low VM densities on each server mean higher per VM costs. This is probably a price worth paying if an organisation is relying on commodity servers. Virtual Machine Company Appliances, on the other hand, boost returns on your investment in virtualization, safely delivering the highest density ratio of VMs by combining VM performance optimisation and capacity management software, with high performance x86-64 hardware tuned for use in virtualized environments, and overlaying high levels of SLA-backed services.

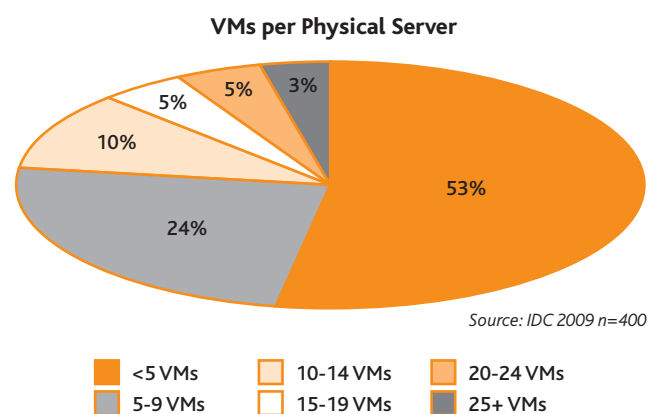
Fig 2: Estimated costs of delivering 100 virtualized applications



As a result of our unique design criteria and combined hardware and software approach we are able to greatly increase the consolidation ratios that can be achieved in your data centre. And whilst spec-for-spec the hardware provided by VMCo is no more expensive than that from a commodity hardware supplier you need fewer of them. The advantages are not just found in reduced capital expenditure on server hardware but running more applications on less hardware also means fewer hypervisor licenses, less and less P&C, less networking infrastructure, fewer support

agreements. In the same way that a bus carrying 40 passengers delivers significant savings on fuel, parts, road tax and emissions compared to 40 cars, the more VMs you run on a single reliable server, the greater your savings and the larger your return on investment

Fig 3: Average number of VMs per physical server



2. Skills

VMCo provides an integrated package of hardware, software and support, fully operational before the customer takes delivery. All that needs to happen is for the machine to be dropped into the rack and it can plug into the company's IT system – this can take as little as 20 minutes from unpacking to full operation.

3. Psychology

Far from being difficult to 'see', VMCo provides a unique, hypervisor-independent GUI that allows you to see exactly how all your VMs are performing and how the underlying hardware is coping. Our *Virtual Estate Manager* software provides active resource forecasting and remote log monitoring acts as a safety net, ensuring that you, your staff or your outsource provider are alerted well in advance of developing issues becoming critical. This provides greater peace of mind than with traditional systems.

4. Technical support

At VMCo we design, build and support all elements of the package that we supply. Professional on-shore support is offered 24 hours a day and any issues are resolved extremely quickly, on a first call final resolution basis.

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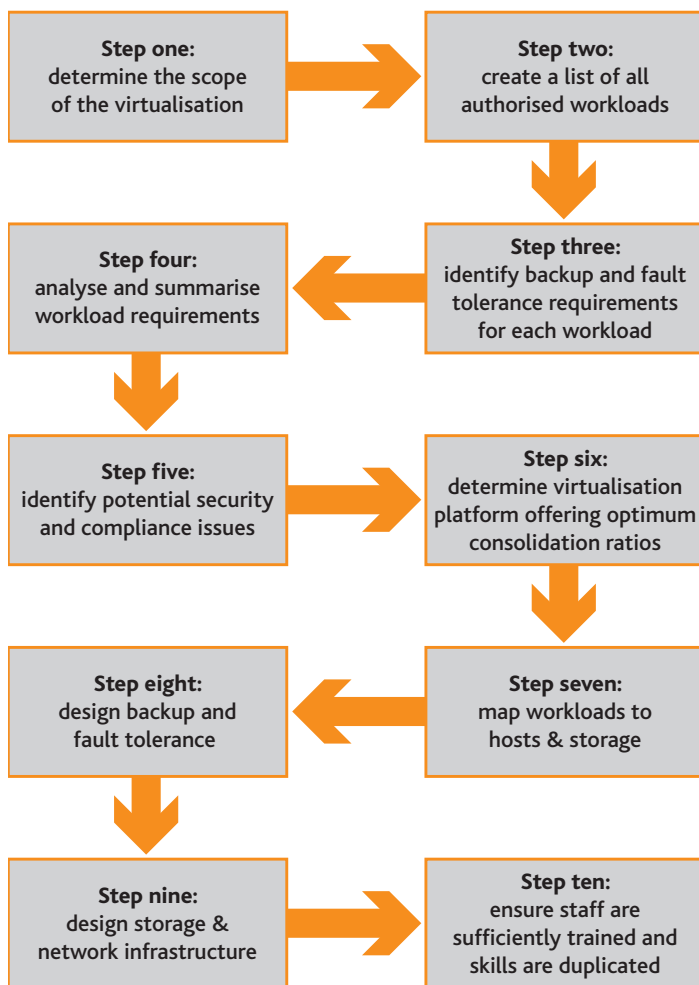
5. Technical services

Delivering best in class technical support and services is one of the core values of VMCo's proposition.

We have a full service contract with the Computerlinks Group, a €600 million support and services company with nearly 20 years' experience of delivering enterprise-class onsite support for blue-chip companies including Nokia, CheckPoint and Citrix. This delivery is backed by our professional service level agreements.

All VMCo Virtualization Appliances come with 12 months 8 by 5, Next Business Day on-site support as standard, which can be upgraded to 24/7, 4 hour on-site support or built specifically to your requirements.

Fig 4: Step-by-step guide to planning a data-centre virtualisation project



Further benefits

VMCo's virtualization package offers a series of operational and technical benefits to customers.

These include:

- **Efficiency through consolidation**

Once a system has the optimum ratio of RAM to CPU to IO, power consumption is reduced, less hardware is needed and hypervisor performance is optimised. In traditional IT configurations, with one operating system per machine, the percentage of CPU used may be as low as 5%. In a virtualization system, this percentage rises sharply, making far better use of business assets and cutting down waste.

- **Greater visibility**

Adopting VMCo's remote monitoring service helps to mitigate operational and technical risk, identifying a range of issues ahead of time and allowing a business to maximise its up-time. This forward planning includes issues such as power supply, memory capacity and software updates. Using our Smart Capacity Management and Forecasting tools gives the system manager exceptional visibility into the virtualized datacenter. It monitors the performance of the virtual machines and lets the system manager see how the hardware is coping with its workload.

- **More effective use of staff and resources**

In a traditional IT configuration, there are multiple machines and operating systems spread out across different departments in an enterprise. The cost of these machines is borne by the IT department, even though it has little visibility over the true cost to the business of each department's computers. With virtualization comes a far greater ability to see these costs. The IT department acts as an internal service provider to the business, bringing much more visibility over real costs and allowing resources to be allocated in a more intelligent way.

- **Enhanced security**

VMCo are working with some of the World's leading security vendors to enable us to deliver and support pre-configured security solutions that provide a future-proofed, integrated solution, with the highest levels of access, reliability and security.

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Conclusion

There many benefits to be gained from virtualizing more if not most of your core and everyday IT functions:

- simplified infrastructure management, maintenance and procurement
- deployment can be based on objective business requirements
- much more reliable access to applications and information resources that power the day-to-day life of every organisation
- solid and highly configurable security
- efficient consolidation of workloads
- fewer servers as well as fewer difficult to manage and monitor PCs
- reduced demand for storage
- less pressure on networking infrastructure
- significant savings on software licensing
- reduced support costs
- reduced capital expenditure
- lower running costs for power and cooling

Deploying Virtual Machine Company Virtualization

Appliances and exploiting the full potential of our Virtual Estate Management software will ensure a reliable and scalable foundation on which to to deliver the future of high performance, enterprise computing.

Our proposal to you

Our proposal to you is that instead of using a selection of commodity servers, married to a collection of 3rd party components, software licenses and support, you consider the advantage that a VMCo virtualization appliance provides – a package combining software, hardware and service all together delivering superior performance, return on investment and peace of mind.



**Contact VMCo on +44 (0)1223 96 8481
to discuss your requirements,
or email info@virtualmachineco.com.**