



HP BladeSystem and Parallels Virtuozzo Containers

Reducing the cost and complexity of virtualization



Consolidating server virtualization for high levels of density, performance and manageability

Tackling virtualization obstacles

While traditional virtualization solutions have become pervasive, they're not always easy to implement. IT managers have numerous hurdles to overcome as they attempt to virtualize applications in the datacenter, including escalating demands for performance, increasing overhead costs, rising administrative complexity and sprawling operating systems (OS) and virtual machines (VMs). Today's IT managers search for a new virtualization approach that can ease the migration to a virtual computing environment. And HP and Parallels have the answer.

Taking consolidation to a new level

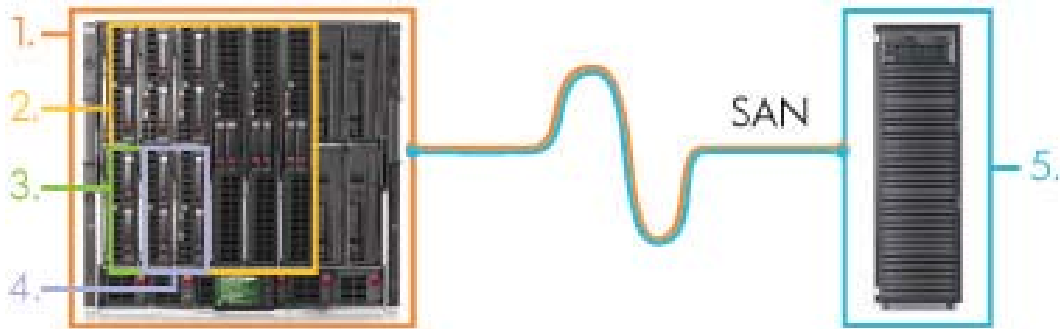
Working together, HP and Parallels have taken IT consolidation projects to a new level by not only consolidating computing hardware, but also consolidating OSs and VMs. The software component of our solution is Parallels Virtuozzo Containers. Virtuozzo Containers offers high server density through its near-native server performance architecture, making it suitable for performance-sensitive applications and servers. The patented Virtuozzo architecture further accelerates cost savings through a unique single-OS architecture and extensive management tools. With Virtuozzo Containers, server management tasks are reduced and automated, enabling administrators to save significant amounts of time and effort.

Powering our solution is the change-ready HP BladeSystem c-Class. This efficient, flexible computing platform is ideal for virtualization projects because it's virtualized from the start. The HP BladeSystem c-Class platform consolidates all resources—compute, storage, power, cooling, connectivity, redundancy and security—within a single rack-mount enclosure. Using modular components that are preconfigured and ready

to go, HP BladeSystem enables you to rapidly provision resources within your ecosystem. This next-generation platform also includes integrated management features that simplify administration of your end-to-end solution, helping you control increasing IT service demands while saving time and money. In addition, HP BladeSystem supports worldwide environmental initiatives by utilizing HP Thermal Logic technology to enhance datacenter power and cooling efficiencies, leading to reduced energy consumption and excellent savings. It all adds up to a best-run infrastructure—right out of the box.

Solution benefits

- Consolidation ratio/density – three times the number of virtual servers on each hardware node
- Outstanding manageability – decreases OS sprawl and administrative time
- Native performance – consolidates performance-sensitive workloads without degradation
- Dynamic resource allocation – changes resource parameters in real-time
- High-availability – offers optimal uptime and reliability to improve business continuity
- Energy-efficiency – enables you to accelerate your green initiatives



1. Infrastructure enclosure
2. Application server
3. Security server
4. Management
5. Storage

Tailor-made infrastructure

HP BladeSystem makes it fast and easy to deploy, customize and grow your business technology infrastructure on your own terms. When configured with HP ProLiant server blades, HP BladeSystem provides world-renowned server reliability and innovation that improves operational efficiency while managing complexity and risk. You can also choose HP Integrity server blades, which provide an intelligently virtualized, dynamically scalable and always available infrastructure for your most demanding workloads. As for storage, HP StorageWorks storage blades offer simple storage expansion and flexible data protection. And finally, you can take complete control of your server infrastructure from anywhere at any time using HP Insight Control management software—tools that give you the confidence to reliably deliver a stable IT infrastructure.

Service and support

Together with HP Services, we provide you with a complete portfolio of services tailored to your unique business and IT needs. We leverage the proven methodologies and expertise of over 65,000 HP Services professionals around the world to help your company design, build, integrate, manage and evolve an HP BladeSystem infrastructure that enables you respond to business changes easily and cost-effectively.

Bill of materials

Infrastructure

- 1 HP Blc7000 1 PH 4 PS 6 Fan
- 1 HP Cisco MDS 9124e 12-port Fabric Switch Opt Kit

Application server

- 3 HP ProLiant BL460c, (2) Dual-Core, 2.66 GHz Intel® Xeon™ processor, 4GB RAM, (2) 146GB 10k 2.5in. Hot Plug 15K, FC drives
- 3 HP BL685c (2) Dual-Core, AMD Opteron processor, 8GB RAM, (2) 146GB 10k 2.5in. Hot Plug 15K, FC drives
- 9 Microsoft Windows® Server® 2003, server licenses

Security server

- 1 HP ProLiant BL460c, (2) Dual-Core, 3.2 GHz Intel Xeon processor, 4GB RAM, (2) 36GB 15k 2.5 Single Port 15K, FC drives
- HP ProLiant Essentials Vulnerability and Patch Management

Management

- 2 HP ProLiant BL460c, (2) Dual-Core, 3.2 GHz Intel Xeon processor, 4GB RAM, (2) 36GB 15k 2.5 Single Port 15K, FC drives
- Parallels Virtuozzo Containers licenses
- 8 HP Insight Control DataCenter Edition
- 8 HP iLO Power Management Pack and HP ProLiant Essentials

Storage

- 1 HP StorageWorks EVA4400, 7 TB with 300GB 15K, FC drives

Service and Support

- HW and SW Support – HP 1yr Next Day
- Factory Express level 1-Integrated-Simple Box Config

Driving better business outcomes

Through our partnership with HP, we can apply the resources, experience and knowledge of this industry leader to ensure our virtualization solution delivers the business results and value your company deserves. With a proven track record of success in virtually every market, customer segment and region worldwide, we trust HP to deliver on its promises of lower costs, mitigated risk and enhanced business growth—and so can you.

*n = number of licenses required by vendor licenses regulations

**BOM should be used as example only, architecture will vary by customer environment

Technology for better business outcomes

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To learn more visit www.hp.com/go/bladesystem or www.parallels.com/virtuozzo

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