
Parallels OS Virtualization: SERVER CONSOLIDATION

Datacenter Concerns

- **Server Utilization**

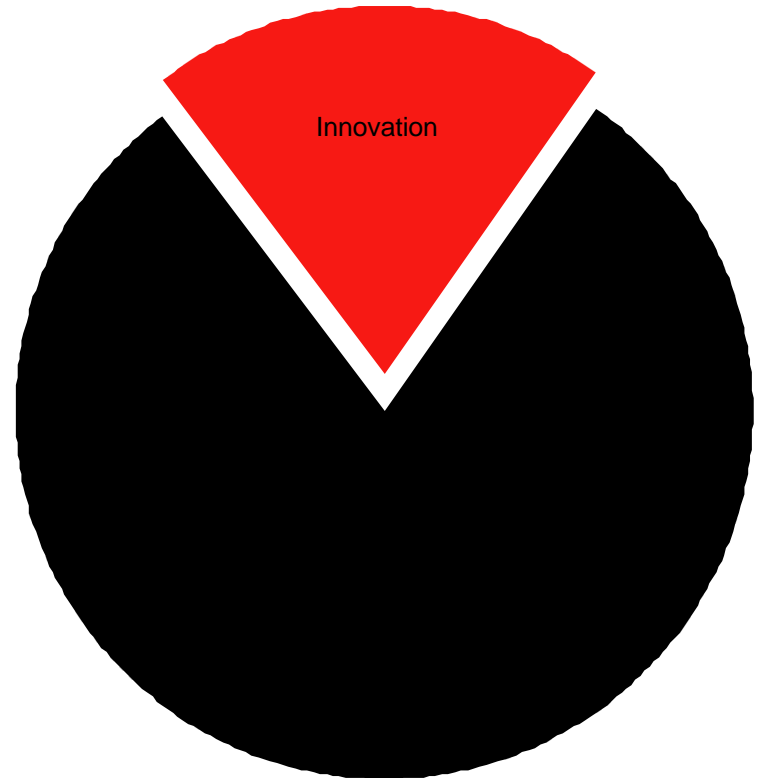
- 80% of enterprise data is isolated on low-cost servers suffering from low utilization and management issues. (ESG Consulting)

- **Support Costs**

- 80% of data center budgets are allocated to support costs. (Boardroom Minutes, Sun Microsystems)

- **Resource Accounting**

- Few data centers can dynamically track what hardware and software assets are installed, dynamically reallocate resources b/w user environments

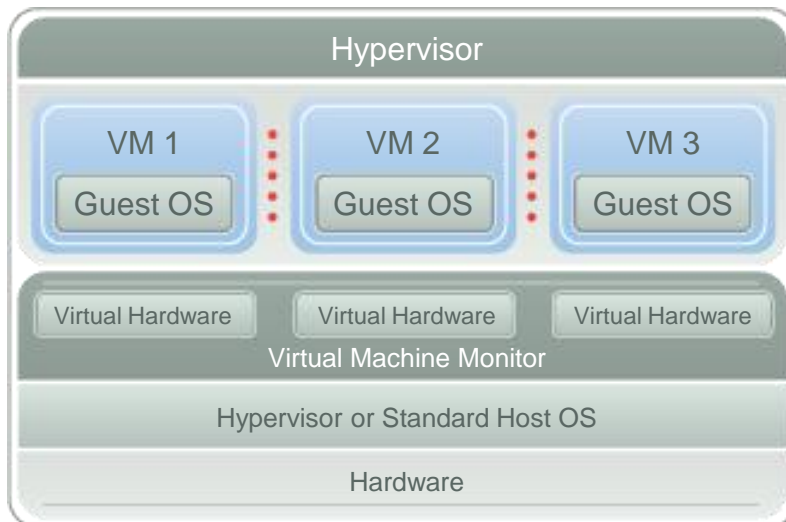


IT spends more time supporting than innovating.

Overview of Virtualization Technologies

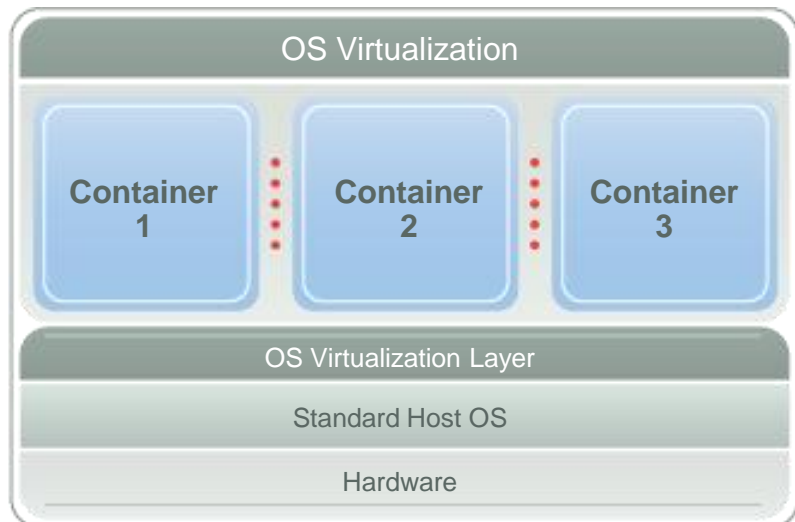
Hardware Virtualization (Hypervisors)

- Virtualizes access to hardware
- Create many instances of virtual HW
- Host OS and each guest has full OS
- **Parallels Server**, VMware ESX, Microsoft Hyper-V



OS Virtualization (Containers)

- Virtualizes access to OS
- Create many instances of virtual OS
- Single, standard OS kernel per box
- **Parallels Virtuozzo Containers**, Sun Solaris Containers, OpenVZ



Parallels Virtuozzo Containers Features

The Leading OS Virtualization Solution



High Density Partitioning

Up to 100s+ of containers functionally
Identical to standalone servers

Complete Isolation

Security, address, functional,
fault and performance



Dynamic Resource Management

On the fly change: CPU, memory, disk, all
system resources – value / limit / guarantee

Live Migration

Move containers without service
interruptions and w/o shared storage



Mass Management

Architecture & tools for multi-container &
server administration.
OS/app Templates. **MS/RH Cluster. Backup**

Parallels Infrastructure Manager

Design for large-scale deployments

- 100s of administrators, 1000s of physical servers, 10s of 1000s of Containers/VMs;
- Logical views of the data center, Role-based security & audit, Multi-level Delegation

Complete virtualized IT life cycle management

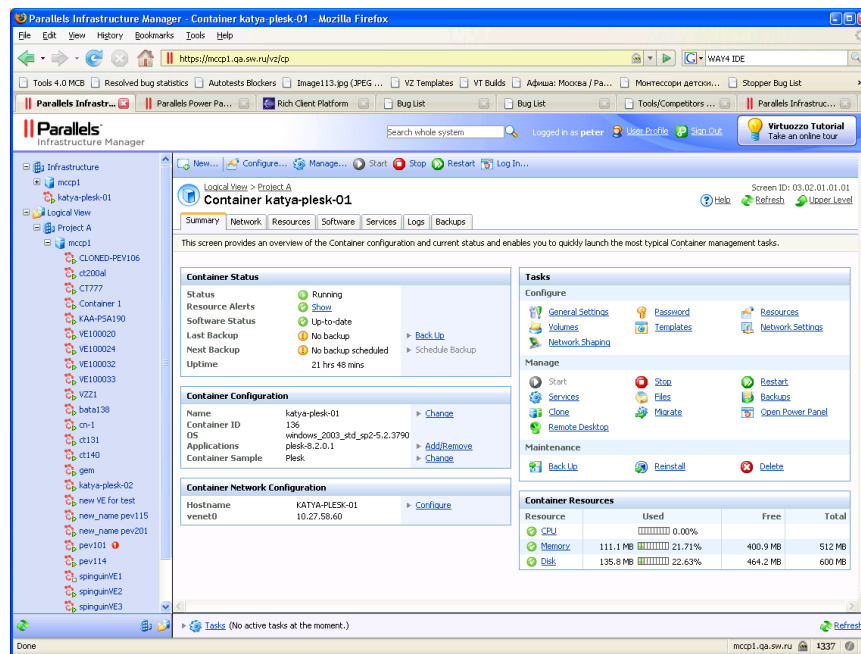
- Convert, provision, monitor, backup, deploy, recover, analyze, troubleshoot, repair, migrate, self-manage, p2v, v2v, v2p and more;

Open – Easy to integrate and extend

- Industry standard: SOAP, XML RPC, CLI, SNMP APIs and SDK, LDAP

End-to-end management

- Upcoming multi-vendor management: Parallels Virtuozzo Containers, Parallels Server, Microsoft Hyper-V, VMware VI3, Citrix XenServer and more
- Multi-layer including physical, VMs, containers and applications



Easy to Use

- Powerful dashboards for data center staff, easy download, installation and configuration, intuitive wizards, and tutorials

Comparing Products

		Parallels Virtuozzo Containers 4.5	VMware vSphere 4.0
Scalability	Consolidation Ratio	20:1	7:1
	VM/Container Scalability	Scales to full resources of server	Limits: 8 CPU SMP & 256 GB RAM
	Dynamic Resource Management	Yes	Partial
Performance		Dynamic Allocation of CPU, Memory, & I/O	Disk space and memory change requires reboot
	CPU Architectures	X86, x64, Itanium	X86, x64
	Performance Overhead	1-3%	up to 15%
Management	Live Migration	Yes	Yes
	Time Required to Provision One Virtual Server	30 sec-1 minute	5-10 minutes
	Global Patching of VEs or VMs	Yes	No
	Support for SAN, iSCSI, etc.	Yes	Yes
	Physical to Virtual (P2V)	Yes	Yes
High Availability	Flexible Storage	Yes	No
	Cluster Support	Yes	Yes
	Virtual Server Backup	Yes	No
Price	Price (incl. 1-year Support)	USD 4,500/Dual CPU	USD 7,000/Dual CPU