

Parallels® Virtuozzo Containers

Customer Success Story

ServInt Grows and Saves with Parallels Virtuozzo Containers

Hosting provider saves up to 85% of power consumption and improves server management by using Parallels Virtuozzo Containers.

Business Challenge

ServInt started and grew a successful hosting business by offering customers managed dedicated servers. As ServInt added more servers, the total cost of power and the ability to easily manage servers began to be a concern. Additionally, as servers became more powerful, customers didn't need an entire server to run their applications, so ServInt began to investigate how they could create virtual dedicated servers.

Moving to Virtual Private Servers

Parallels Virtuozzo Containers provided the perfect solution. By implementing Containers, ServInt was able to reduce power consumption, deliver new customer offerings, and improve manageability. By offering virtual private servers, ServInt was able to provide customers with root access to their server while consuming 85% less power. They accomplished this because 15 or more customers could share a single server.

“ServInt saw a market need for customers to be ‘masters of their own domain’ by having root login to a server. Virtualization provides us with a way to offer root access without wasting the power and space associated with a dedicated server.”

— Christian Dawson, Vice President of Operations, ServInt

Not only did ServInt save power, but Virtuozzo Containers improved operations. For example, the process of moving a customer from one server to another used to take hours of manually intensive work – Virtuozzo, this was automated. Processes that used to involve hours of labor intensive work could now be done faster and with 80% less labor.

Virtuozzo Containers also provides customers with the ability to start with a small server and increase the amount of memory and storage as they need it. This provides ServInt with the ability to offer attractive price points and a smooth experience with their upgrade paths.



Overview

Location: McLean, VA, USA

Type: Hosting Provider

Founded: 1995

Stock: Private

Customer Profile

ServInt specializes in full-service, high-bandwidth web hosting for business customers. ServInt also provides clients with high-speed Internet access through its Access Services group.

Business Situation

ServInt built a successful dedicated hosting business, but wanted to reduce power consumption and better manage their servers.

Parallels Solution

Parallels Virtuozzo Containers provided a highly efficient solution for reducing power output through the consolidation of poorly utilized servers.

The OS virtualization technology in Parallels Virtuozzo Containers provides the lowest possible overhead and lowest possible power consumption of virtualization solutions in the market today. In addition, the management tools that accompany Parallels Virtuozzo Containers reduce waste associated with management tasks such as server migration and backup.

Saving Power

The remainder of this case study contains quantitative and qualitative data describing the deployment of an energy efficient datacenter. Several of the facts and figures presented were measured directly by ServInt, while others were taken from forecasts.

Quantitative Proof and Measurements

Power Savings From Virtualization

To quantify the power savings, ServInt took some key measurements from servers in their Virginia datacenter. They measured the power that a typical server draws without virtualization, the power that a typical server draws with virtualization, and the amount of power required to cool servers. The results of these measurements are provided in the table below.

	Units	Example 1
Servers		
Total Servers	servers	3600
Total Servers after Virtualization	servers	240
Power		
Server wattage (under-utilized server)	volts x amps = W	132
Server wattage (fully utilized server)	volts x amps = W	297
Electricity (under-utilized server)	kWh / month per server	96.43
Electricity (fully utilized server)	kWh / month per server	216.96
Cooling cost per server ratio		2.33
Total Electricity (under-utilized server)	kWh / month per server	224.96
Total Electricity (fully utilized server)	kWh / month per server	506.16
Cost of Power	\$ / kWh	0.1
Total monthly power and cost		
Energy (without Virtualization)	kWh / month	809,863
Energy (with Virtualization)	kWh / month	121,479
Savings		
	percent	85%
	\$ / month	\$ 68,838.33

Notes and Assumptions:

1. **Total Servers** are provided as an example only.
2. **Total Servers After Virtualization** is the total physical servers needed after virtualization. This estimate is based upon estimates provided by ServInt – within a testing environment ServInt used Parallels Virtuozzo Containers to power 40 clients on one server.
3. **Electricity measurement (server wattage)** is an average. Each individual server will draw different amounts of power based on the model, the utilization, and configuration.

More Potential Savings

By changing assumptions about the virtualization ratio, even more power savings are possible.

- 15:1 = 85% savings (as shown)
- 20:1 = 89% savings
- 30:1 = 93% savings

By providing the lowest possible overhead, Virtuozzo allows providers to maximize power savings and minimize power consumption.

“Implementing Parallels Virtuozzo Containers improved the way we do business while helping us reduce power as part of our green hosting initiative.”

— Curtis Berry, ServInt Senior Systems Engineer

4. **Cooling cost ratio** measures the amount of power consumed to dissipate heat. The number used here is an industry average and not measured directly by ServInt.
5. **Cost of power** is an industry average and not necessarily reflective of ServInt's cost.

Implementation of Green Virtualization

There are other concerns when designing a green datacenter with virtualization. For example, the density of power will be greater. ServInt has recently installed channels to serve highly efficient low voltage Dell Energy Smart Servers to reduce overall power consumption.

Parallels is pleased to host several of its public facing websites inside the ServInt datacenter. In addition to carrier class service, ServInt helps socially responsible companies such as Parallels offer services with minimal impact to the environment.

Other Green Initiatives

ServInt is planning other green hosting initiatives which will be announced in the near future. Visit www.servint.net for updates and details.

Learn more at www.parallels.com/virtuozzo

For More Information

Virtuozzo Containers Documentation

To view the online documentation, visit the Parallels web site:

<http://www.parallels.com/virtuozzo>

Contact Parallels

For more information about Parallels products and services, call Parallels sales at +1 703-995-4102. Outside the United States and Canada, please contact your local Parallels sales office.

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