

Parallels® Virtuozzo Containers

Success Story: Kalido

Parallels Virtuozzo Containers Allows Kalido the VDI Infrastructure Needed to Go Offshore

Creating Duplicate Development Environments on 3 Continents Is Easy with Parallels Virtuozzo Containers

Business Challenge

Kalido is a software development company based in the UK and US that decided to expand their development and quality assurance practice to India to effectively handle its rapid growth. Kalido's data warehousing and data management software requires heavy computing power to effectively run the applications. The challenge Kalido faced was how to set up high-performance development environments for 20 new software engineers that were identical to the environments used in the UK and US. To add to the challenge, Kalido needed to have the environments tested and reliable within a matter of weeks.

Evaluation

Nick Gatt, IT Manager of Kalido, was handed the challenge of finding the most cost-effective solution possible to create offshore developer environments in April 2007 with a proof of concept due in August and a go-live date of September. Gatt already knew that he had a challenge making the powerhouse Kalido application with its large databases readily available to developers that literally sat next to the server in the UK, let alone engineers located in India. Gatt looked at three possible ways to meet the challenge: terminal services, Citrix, or VMware hardware virtualization.

He needed a solution that would allow remote developers to work effectively without the expense of putting in a 100 Mb link between the UK and India to allow for effective data transfer speeds and that added the least amount of overhead to the already 1.5 Gb RAM taken up by a typical developer's work environment.

Terminal services, Citrix, and VMware were all assessed, but ruled out because of the size of each respective application. Gatt estimated that with either TS, Citrix, or VMware, Kalido would need to buy a one unit rack mounted server per remote engineer with remote desktop access to serve as the coding environment. Seven group servers for testing code, compiled hot fixes and debugging would be additionally required along with physical servers to handle JBoss, WebSphere, Oracle, and SQL Server. Gatt estimated that the infrastructure required to handle his offshore engineers would total more than \$250,000 and require close to a year to deploy. He next investigated going to a hosted solution using Blade servers and SANs, but ruled this out due to the operational disruptions that would be required to change the internal workings of Kalido's software development environment.

After some research, Parallels Virtuozzo Containers seemed a good fit. He attended a few webinars, attended a live demo, and downloaded the software to try for himself.



Fast Facts

- **Company:** Kalido
- **Industry:** Technology
- **Organization Type:** Private enterprise
- **Location:** London, UK; Burlington, MA USA
- **Website:** www.kalido.com

"We met our deadline and confidently rolled out a solution that worked"

— Nick Gatt, IT Manager, Kalido

Parallels Virtuozzo Containers Solution and Implementation

Gatt has organized his datacenter in a clean, efficient manner that simplifies management. Kalido's physical datacenter infrastructure design assigned a set of servers to roles. Parallels Virtuozzo Containers was implemented using this same design to allow Kalido to keep the roles on the same physical servers, but to split applications up logically. Kalido paired up servers for backups and restores using the same base OS configurations. Offshore engineers were assigned two load balanced servers with ten coding environments on each box. Production services use two load balanced servers running x64 Windows with SharePoint, Exchange Webmail and file service on one hardware node and domain controller services, Microsoft Exchange, and SQL Server running on the other.

In keeping to the original infrastructure design based on roles, separate Parallels Virtuozzo Containers containers now exist for Kalido's Mail Marshal Anti-Spam, FTP, and departmental file servers. Kalido also uses containers to virtualize Perforce, Exchange Webmail, Afian Document Management, Tembria Server monitoring, Microsoft SQL Server, Wiki services, SharePoint, and Kalido's own custom built environments.

With its low overhead and tiny footprint, Gatt was able to conserve server resources and get the native performance his developers sought. Parallels Virtuozzo Containers was loaded onto a few Dell PowerEdge 2900 servers and 7 virtual environments per server were initially created. "The implementation was quick and easy," commented Gatt, "we were able to roll out one person per week and that was adequate time to ramp up on Parallels Virtuozzo Containers and the workings of their virtual environment. At the end of the week, each developer had the equivalent of a very high-end desktop running Microsoft Office, SQL, Oracle, and WebSphere".

Results

Kalido was able to quickly get their offshore developers up and working in a high-performing development environment that was a duplicate environment of those found in Kalido's home office in a matter of days. While the original implementation had a starting density of 7 virtual environments per physical server, Kalido decided to increase this to 10 virtual environments per server with no degradation in performance. The offshore Indian facility now has 20 engineers that are utilizing Parallels Virtuozzo Containers for their everyday heavy development of Kalido. Kalido is currently running 35 virtual environments across 8 physical servers and has plans to continue to expand.

Nick Gatt values Parallels Virtuozzo Containers' ability to neatly manage his datacenter and relies on the inherent flexibility of Parallels Virtuozzo Containers to easily modify his infrastructure when server load response changes occur. "With my current infrastructure methodology and Parallels Virtuozzo Containers' management tools, I can optimize server performance by easily moving individual or multiple containers to different hardware nodes to maintain the rapid response times expected by our engineers".

Additionally, Parallels Virtuozzo Containers has provided Kalido with unexpected benefits through its multitude of uses. "The more we use Parallels Virtuozzo Containers, the more uses we find for it," said Nick Gatt. "Aside from the development environments, we started using Parallels Virtuozzo Containers' tools for migration and backups to increase our own infrastructure's efficiency. However, the bottom line for the offshore project was that we met our deadline and confidently rolled out a solution that worked."

Future Plans

Kalido plans to scale to more than double its current number of virtual environments by

Solution Fast Facts

- **Challenge:** Provide development environments to offshore software engineers
- **Parallels Solution:** Virtualized Desktop Infrastructure (VDI)
- **Parallels Product:** Parallels Virtuozzo Containers

Hardware Used

- 8 Dell PowerEdge 2900 with 2 quad core CPUs
- 16 Gb RAM, 8x300 GB serial attached SCSI drives running RAID 10 configuration

Applications Virtualized

- Kalido's mass data management and data warehousing software
- Oracle
- Microsoft SQL Server
- Microsoft Exchange Webmail
- Microsoft Office
- Mail Marshal Anti-Spam
- FTP server software
- File servers
- Perforce
- Afian Document Management
- Tembria server monitoring
- Wiki services
- Microsoft Office SharePoint Server

Results

- High end desktop-equivalent virtual environments in use within days

the end of 2007. Kalido's use of Parallels Virtuozzo Containers continues to grow beyond development with the customer support/quality assurance group currently ramping up on using Parallels Virtuozzo Containers for customer build sites for troubleshooting and testing. Additionally, Kalido is planning to install hardware nodes at the US office location and run Parallels Virtuozzo Containers to allow for expansion of the US' current 20-person team.

Kalido also is investigating the possibility of offering a low-end hosting solution to provide sandbox environments to prospects so that they may play with the software and utilize Kalido's tools with sample data sets to fully experience the power of Kalido's model-driven data management solutions.

About Kalido

Kalido is a fast-growing software company that provides adaptive enterprise data warehousing and master data management solutions for Global 200 companies. The software, also named Kalido, is based on findings from over a decade's worth of Royal Dutch/Shell Group (Shell) R&D work in advanced data-modeling and time variance. Developed for internal uses, the Kalido software focused on minimizing the time required to reflect major structural business changes within data warehouses. Kalido was deployed throughout Shell in over 100 countries and dramatically reduced costs by tens of millions of dollars. In 2001, Kalido was spun off of Shell into its own corporation and has gone on to receive more than a dozen industry awards. With over 60 Global 2000 customers in over 180 countries, Kalido is experiencing double-digit annual growth and is the only DW 2.0 compliant software in the world.

Learn more at www.parallels.com/virtuozzo

"I'm running Exchange in a Parallels Virtuozzo Containers virtual environment, but if the hardware dies, I can have it up and running again in 10 minutes"

— Nick Gatt, IT Manager,
Kalido



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