

# Parallels® Virtuozzo Containers

## Customer Success Story

### Rebuilding after Katrina: Murphy Exploration and Production Company, USA, Improves Server Manageability and Flexibility

Challenged to implement a new infrastructure quickly with more business continuity considerations, Murphy deploys Parallels Virtuozzo Containers across its server infrastructure.

#### Business Challenge

Norman Jee, Sr. Systems Specialist, managed the Murphy Exploration and Production Company data center located in New Orleans. When Katrina hit in 2005, Murphy was among the many companies impacted by the devastation. Although the servers did not sustain any physical damage due to the seventh floor location, they were inaccessible without power or connectivity. The only recovery provision was tape backup restoration, and the tapes were stored in the data center. Murphy could not reach or use its data until the water receded and the servers were moved.

After retrieving the servers from New Orleans, Jee and his group established a temporary data center in Lafayette, Louisiana. Jee was tasked with implementing a solution in line with the department's revised disaster recovery plan. The revised plan called for portable Windows machines equipped with replication and snapshot components for server redundancy. It was also necessary for the server to be always available and functioning at same or near same levels as the production servers. "We decided to investigate using virtualization to meet the system portability component and to reduce the number of physical devices," said Jee.

In the original data center, Jee managed several servers and combined non-interfering applications on the same servers. Some data made sense, such as file and print servers that didn't really bother other server co-habitants. Loading multiple applications on the same server was troublesome. Every time an application needed to be updated and rebooted, the entire server was taken down affecting other applications. Adding another application to the existing infrastructure meant adding another server.

Not only would server virtualization consolidate the existing server infrastructure, it would provide a seamless disaster recovery solution. According to Jee, "virtual machines fit well with a disaster recovery plan because the systems are portable. If there is a backup or in our case, a replica of the virtual system instance at a remote site, the machine would be able to be brought online immediately with minor reconfiguration changes."

#### Evaluation

As an IT veteran, Jee was already familiar with VMware and its capabilities. When considering his options, he went directly to Parallels Virtuozzo Containers for an evaluation. "With Parallels Virtuozzo Containers we had the advantages that came with virtualization, particularly for disaster recovery, as well as the good disk and CPU performance."



Murphy Exploration and Production Company, USA, is a division of Murphy Oil. Murphy Oil Corporation is a worldwide oil and gas exploration and production company with refining and marketing operations in the United States and the United Kingdom and crude oil and natural gas exploration and production operations in Canada.

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— Norman Jee,  
Sr. Systems Specialist,  
Murphy Exploration

#### Parallels Virtuozzo Containers Scenarios

- **Server and OS Consolidation**
- Dynamic Workload Management
- **Business Continuity (DR/HA)**
- Internal and Commercial Hosting
- Development & Testing
- Centralized Desktop Management

A primary consideration was the need to virtualize a range of applications, many of them high I/O, and he could not afford to take a high performance penalty by adding virtualization. "I was convinced that because each virtual environment would have access to each physical CPU that was installed on the physical server that my virtual environments would have available CPU resources," said Jee.

For disaster recovery, constant data replication and consistency was important. "By having an up to date replica of our servers, Parallels Virtuozzo Containers would allow us to move the identical system to another site. With the Parallels Virtuozzo Containers directory on our SAN, we could turn up the identical server by just redirecting the LUN to another hardware host – in this case it would be in a remote disaster recovery site," said Jee.

### Parallels Virtuozzo Containers Solution and Implementation

Once the disaster recovery solution was chosen, Jee was faced with implementing the solution and recreating the server infrastructure for his data center. Despite the daunting task, Parallels Virtuozzo Containers was deployed and tested in about a week's time.

Once the solution was refined, the migration from physical to virtual was fairly straightforward. In order to start with clean new servers, Jee built the servers and then virtualized servers from the ground up. He loaded clean Windows 2003 instances and created a new virtual environment for each application. Each application was loaded as a clean instance and the data was carefully migrated to completely recreate the environments. He even migrated his Exchange server on a mailbox basis to ensure that the migration was perfect.

Included in the deployment are a Citrix presentation server, Exchange, Microsoft SQL, RSA, file and print and a domain controller. "It's a huge benefit to be able to update an application and be able to just restart that particular virtual environment without affecting any of the other virtual environments or applications," said Jee. The Murphy configuration usually includes about 5 virtual environments with applications running on a Dell 6850 with full RAM and quad processors. The robust server configuration was selected not because the virtualization and application required it, on the contrary, this configuration was selected because it is expected to support the growth of the applications for at least five to six years.

One of the biggest benefits is the time for recoverability and with the disaster still impacting daily operations, recoverability became a primary factor. "It used to take at least a half day to recover and restore an application. Now with the Parallels Virtuozzo Containers backup and recovery toolset I can do it within a half-hour."

### Murphy Oil Results

The Murphy Oil deployment of Parallels Virtuozzo Containers was successful and has already positively contributed to the effectiveness of their disaster recovery plan. Jee and his team continue to discover new ways to optimize the Parallels Virtuozzo Containers to leverage the maximize effectiveness for their needs.

Learn more at [www.parallels.com/virtuozzo](http://www.parallels.com/virtuozzo)

### Hardware

- Dell 6850
- 3.1 GHz Quad Dual-Core Intel Xeon Processors
- 64 GB of RAM Mirrored

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### Software Applications

- Citrix Presentation Server
- Exchange
- Microsoft SQL
- RSA
- File and Print Servers
- Domain Controller



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