

# Parallels® Virtuozzo Containers

## Customer Success Story

### Systems Architect Designs and Builds Breakthrough Desktop Deployment with Unmatched Security, Reliability and Manageability

Faced with never-ending desktop hardware challenges for processing, security and reliability, KV Pharmaceuticals replaced its traditional desktop infrastructure with a Parallels Virtuozzo Containers Virtual Desktop Deployment.

#### Business Challenge

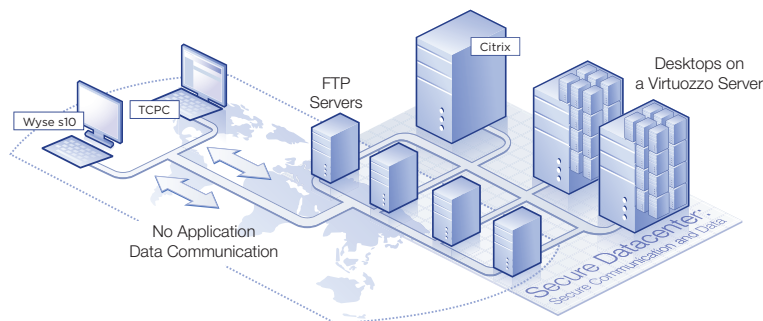
KV Pharmaceuticals was in a situation similar to most growing organizations; desktops have become unruly for the IT team to manage. Ben Foxx, the Systems Architect for KV Pharmaceuticals summarized, “The day to day maintenance, imaging, upgrading and troubleshooting of desktops was overwhelming. On top of that, we’ve never been able to backup user desktops.” The limitations of a decentralized desktop architecture were becoming insurmountable as the company continued to grow. Also faced with the compliance and security issues required of a pharmaceutical company by the Federal Government, Ben was determined to find a better way to manage the desktop infrastructure.

#### Evaluation

KV Pharmaceuticals was already a loyal customer of VMware. Through a series of company tests and many years of experience, it was determined that VMware would continue to be used to implement certain servers deployed with different OSs and required specific configurations. Production applications that were performance sensitive were assigned to run in Parallels Virtuozzo Containers. KV Pharmaceuticals already had approximately thirty production applications running in Virtuozzo Containers. As a result, Foxx had both VMware and Virtuozzo Containers, as well as Citrix application virtualization, in the raw materials he was able to use to construct his new desktop architecture.

#### Virtuozzo Implementation and Solution

It is a new rule of thumb in virtualization to virtualize as high as possible in the technology stack to gain the best levels of manageability. Foxx lives this mantra. He created beautifully simple architecture which provides an amazing amount of flexibility, manageability, security, reliability and performance at unmatched value.



The deployment itself uses either existing PCs or Wyse thin clients for the end user to connect into the sessions. Foxx designed a 1 to 1 user to virtualized desktop for several reasons. First, the desktops are heavily used on a daily basis, meaning they don't serve users from time to time as would be more conducive to a configuration that brings



#### Fast Facts:

- **Industry:** Pharmaceuticals
- **Organization Type:** Publicly Traded
- **Location:** HQ St. Louis, MO
- **Website:**  
<http://www.kvpharmaceutical.com>

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— Ben Foxx,  
Systems Architect

#### Parallels Virtuozzo Containers Solutions:

- Server and OS Consolidation
- Virtual Desktop Infrastructure

the container live for the user on demand. Secondly, he can keep the configuration this static because of the extremely high system density he gets in the Virtuozzo Containers deployment.

Users RDP into the datacenter and go through an FTP server which serves up the appropriate container.. Foxx has created a “golden image” of a container which includes the standard configuration of components and applications that is provided to each end user. Components include: Office 2003, and IBM AS400 client, usability plug-ins like Flash and video viewers and finally a Citrix agent. All applications that go to a subset of users and have sporadic usage are deployed on Citrix Presentations Servers, housed in Virtuozzo Containers. Virtualizing the applications in this manner is preferred because it enables the application to run externally from the desktop server. Also, server configuration and resources are easy to manage and need little adjusting with user peaks and valleys. Citrix has non-user specific instances that start up and run very efficiently on a limited amount of hardware on a per-instance basis. As a result, the user desktops remain solid and need little configuration management. The architecture is a patch management dream. Every single environment and application in the configuration is extremely easy to manage and maintain, freeing up administrators to work on more interesting tasks than the day to day desktop issues. While most organizations are experiencing an increase in administrative demands due to virtualization, KV has become more administratively efficient.

All resulting data is held in each user’s primary VDI. KV Pharmaceuticals private and sensitive data never LEAVES the premises, and just as importantly, it is backed up on a regular and consistent basis. All of these capabilities help KV Pharmaceuticals achieve the strict compliance requirements imposed on pharmaceutical companies.

## Results & Future Plans

The VDI project has been so successful, KV plans to expand the deployment company-wide. The company had previously deployed cutting edge PC hardware at a costly frequency. Now, with Foxx’s new architecture, and access to high performance servers, end users are shocked to have even better performance than they had with their own PCs. “Our users boot their system in 7 seconds. With the manageability and performance of this solution, there hasn’t been a downside. We plan to expand it as quickly as we can,” Ben Foxx summarized.

As for quantitative results, they have looked at the cost of the new infrastructure, isolating the Parallels Virtuozzo Containers component, and evaluated it against standard desktop deployments. Considering hardware and software alone (not the even bigger but elusive administrative costs) Foxx remarked “If we place 9 desktops on a single server, we break even. Today we’re running 40 on a server and we’re not even close to using the full resources of the server.”

Many companies are increasing their administrative staffs to accommodate for the complexity and growth that virtualization is introducing. In this case, KV pharmaceuticals plans to move from a desktop administrative staff of 14, to a conservative 4 over time. They are extremely excited about this because the 10 resources will be retrained and redeployed in other IT support roles while the four remaining personnel’s roles will become much more automated and advanced. “We see this as an opportunity to really improve on the service we give to our customers, the employees of KV Pharmaceuticals. Support and IT improves and the entire company becomes more productive,” said Foxx.

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

## About KV Pharmaceutical:

KV Pharmaceutical is the only specialty pharmaceutical company that competes in the branded, generic/non-branded, and value-added, specialty ingredient market. Internally, we apply our drug delivery technologies to products for our three wholly owned subsidiaries Ther-Rx Corporation, ETHEX Corporation, and Particle Dynamics, Inc.

## Desktop Applications Virtualized:

- Microsoft Office 2003
- IBM AS400 Client

## Usability Components:

- Plug-ins, Viewers
- Citrix Client

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