

## KROLL ONTRACK®

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— Joel Fuller  
Technical Architect, Kroll

## KEY HIGHLIGHTS

**Challenge**

Physical IT infrastructure strains capacity of datacenter

**Solution**

VMware ESXi provides a lightweight but powerful hypervisor solution to create an easily administered virtual infrastructure that consumes fewer resources.

## Kroll Ontrack

Kroll Ontrack (Kroll) is the recognized world leader in providing legal technologies and data recovery products and services. The Eden Prairie, Minnesota-headquartered company is a division of Kroll Inc, the world’s leading risk consulting company.

### Challenge

“Our business revolves around legal technologies like electronic discovery, so we have large amounts of customer data in the form of backup tapes or hard drives which gets transferred onto our file servers,” says Joel Fuller, a technical architect at Kroll. “Like most businesses, it’s a challenge to make sure our IT infrastructure can keep up with the amount of data we have to manage.”

### Solution

To address this challenge, Kroll decided to use an embedded version of VMware’s next generation hypervisor, VMware ESXi. Over the years, Kroll had successfully used VMware ESX in its data centers, but they were attracted to the architectural benefits of VMware ESXi. The two hypervisors have the same underlying code base, leading to the same functionality and performance. However, VMware ESXi is packaged without a Console Operating System (OS), leading to a dramatic reduction in size, fewer patches, and increased reliability.

“We chose ESXi to virtualize our file servers based on lessened patching requirements and the ability to get away from using hard drives in the servers,” says Fuller. “This makes the hosts cheaper to buy and they use less power.”

In addition to eliminating the need to security harden and patch the console OS, ESXi is also easier to manage and provision. The management agents and other functionality that rely upon the console OS in ESX are replaced in ESXi with standards-based management interfaces implemented directly in the hypervisor. Because the system is so streamlined, relatively few steps are needed to configure the host. A simple script is all that it takes to completely set up the virtual networking, storage, and other host-level configurations.

“ESXi is very easy to configure and deploy,” agrees Fuller. “You basically take a USB key and push out a scripted configuration to it, and it’s done.”

## VMWARE AT WORK

- ESXi
- High Availability (HA)
- VMotion
- Distributed Resource Scheduler (DRS)

## DEPLOYMENT ENVIRONMENT

- Hardware: HP BL460 and BL685 attached to EMC CX4 and DMX4 SANs
- Guest operating systems: Windows Server 2003 Standard and Enterprise, Windows XP
- Virtualized Production Applications: Proprietary management applications, file servers, Microsoft Internet Information Services (IIS)
- Virtualized Pre-Production Applications: SQL
- Systems management integration: ESX hosts monitored using VMware Virtual Center; guests monitored using the same NetIQ monitoring agent as for physical servers.

Within two months, the ESXi rollout design was complete and PowerShell scripts had been prepared to automate the rollout. With a goal of migrating 500 existing physical file servers, Kroll adhered to a schedule of converting approximately 15 file servers per week, with an additional 25 servers converted during monthly maintenance windows. Each file server is built from a template, making it quick and easy to provision new virtual machines.

## Results

Virtualizing nearly 80 percent of its file server infrastructure has helped the company to reclaim data center space and reduce its power consumption. “VMware ESXi lets us get more life out of our infrastructure while giving us a simpler and more secure operational model,” says Fuller. “That makes us a much more scalable organization.”

- **Reduce rack space by 85 percent.**

“We currently have 145 ESXi hosts. ESXi has allowed us to go from approximately 20 racks down to just three racks,” says Fuller. “We will eventually be getting rid of about 500 physical servers from our data center.”

- **Reduce data center power consumption by 10 percent.**

“The running load in our data center has dropped by 140 kilowatts, down to 1.1 megawatts,” says Fuller. “That’s significant because we would have hit our power threshold otherwise.”

- **Increase data center availability.**

“In the event of a fault, we can get a new system up via scripted deployment in just a few minutes, thanks to ESXi,” says Fuller.

