



## VMware Virtual Infrastructure Helps IXIS Maintain a Bull-Market Edge

Investment Bank Realizes Substantial Cost Savings and Increased Efficiencies with VMware Products and Technical Account Manager (TAM) Program

### IXIS Was Quickly Outgrowing Manhattan Datacenter, Hitting Limits on Power, Cooling, and Space

IXIS Capital Markets is the U.S. subsidiary of IXIS Corporate & Investment Bank and a member of Paris-based Groupe Caisse d'Épargne. IXIS' products and services include financing and asset securitization, securities and derivatives sales and trading, asset and portfolio protection products and investment services.

Mornay Van Der Walt, vice president and system architect for IXIS, needed a solution to enable the IT department to meet the growing data processing needs of 450 New York-based employees—many of them traders who rely on highly-available application services to support their trading operations—expansion of the existing datacenter in New York City was not a viable option.

"We were running out of power, cooling and space, while our server count continued to grow quickly," says Van Der Walt. "While we started to design a new datacenter to handle capacity, we wanted to extend the life of our current one as long as possible. A blend of blade technology and virtualization proved to be the best solution."

"I had read about VMware in several white papers—frankly, it sounded too good to be true," Van Der Walt says. "Then, when I saw it working, I was amazed, especially by VMware VMotion technology and the potential impact on our business."

Van Der Walt led a team of four engineers through a successful proof of concept using real-world applications on VMware virtual infrastructure. He then had a strong case to help sell the idea of a paradigm shift to IXIS executives.

### IXIS Focuses on High Availability, Reduced Datacenter Footprint and Faster Server Provisioning

By implementing VMware virtual infrastructure, Van Der Walt and the IXIS team have achieved the following results:

- **High availability.** With VMware virtual infrastructure and VMotion technology, Van Der Walt can provide his traders with 100 percent availability during performance of critical maintenance tasks. "Using VMotion, we completed a patch upgrade from ESX Server 2.5 to 2.5.1 during the week, while our traders were trading, with zero downtime," says Van Der Walt. "Try doing that in a physical world!"
- **Eliminated server sprawl.** The datacenter had started to reach its physical limits – there simply was not enough power, cooling or space to add more servers. With VMware virtual infrastructure, Van Der Walt has been able to meet IXIS' continuously growing server needs, while still leveraging the existing datacenter. Van Der Walt's team brought 127 virtual machines into production since launching the VMware project in October 2004; this would not have been possible using physical servers.

#### RESULTS

- IXIS anticipates a savings of more than \$1 million over two years in hardware savings alone
- Slashed network switch port costs by more than \$100,000
- Achieved a conservative 6:1 server consolidation ratio, maintaining high performance and the ability to quickly deploy new VMs
- Boosted CPU utilization from 2-15 percent to 60 percent
- Eliminated planned downtime when upgrading software or hardware
- Reduced server deployment time from as many as 17 days to as few as five hours
- Increased server-to-administrator ratio to 51:1
- Cut server provisioning labor costs by as much as \$6,500 per deployment

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*Mornay Van Der Walt  
Vice President and System Architect, IXIS Capital Markets*



## VMWARE VIRTUAL INFRASTRUCTURE AT WORK

- VMware ESX Server on 2-CPU IBM HS20 and LS20 dual-core blades with 8GB of memory
- Guest operating systems include: XP Pro, Windows 2000, Windows 2003 Server, RHEL
- EMC Symmetrix DMX1000 and DMX3 SANs
- Application services running in virtual machines include: Active Directory DCs, Altiris, BlackBerry, Citrix, DataSynapse, Documentum, Hyperion, KVS, Oracle, Print Servers, SalesLogix, SQL, TradeWeb

### • Drastically shortened provisioning times.

Before implementing VMware virtual infrastructure, provisioning a new server could take between 8 and 17 days. Now, a server can be provisioned in just a few hours. "In the best-case scenario, we can provision a new server in as little as 5 hours from start to finish; deploying the virtual machine template, installing the application, testing, and finally turning the virtual machine over to the end user," says Van Der Walt.

### • Reduced IT labor costs.

A 51:1 server-to-administrator ratio combined with shorter provisioning times has led to drastic cost reductions in IT labor. "Using a conservative estimate of \$50 per hour against all headcount resources associated with a physical server deployment, deploying a new server in a worst-case scenario could cost \$6,800," says Van Der Walt. "The same scenario in a virtualized environment now costs around \$300."

### • Increased CPU utilization.

IXIS now sees an average of 45 percent CPU utilization with plenty of room to grow, compared to 2 to 15 percent pre-deployment. This allows them to add a large number of virtual machines very quickly. "Reacting to new server requests is no longer an issue. When we used physical servers, we used to have to scramble to move quickly," says Van Der Walt.

## Virtualization Still a Winner in New Datacenter

IXIS is now in the process of relocating its primary datacenter from high-rent Manhattan to a new, state-of-the-art facility across the Hudson River in Jersey City, N.J. Also in the works is an out-of-region datacenter to backup the NJ location. All host servers will run ESX Server 3.0 and VirtualCenter 2.0 on IBM -blade centers that boot from EMC Symmetrix DMX1000 and DMX3 SANs. Besides the highly consolidated server footprint that will result from using VMware Infrastructure 3, IXIS applications will no longer be subject to building-mandated downtime for electrical maintenance and other facilities-related shutdown that impacted server uptime. Now the company can simply migrate virtual machines between ESX Server hosts in different locations. Van Der Walt says the result should be even better disaster recovery strategies and business continuity.

## VMware TAM Program a Worthy Asset

A VMware TAM is a virtualization expert providing strategic guidance and extending the customer's staff resources. Most customers engage a TAM because of the size, speed, and complexity of their deployment. The TAM also becomes a single point of contact through which a customer can access priority VMware support services, collaborate and consult on project plans, and obtain an insider's perspective on virtualization best practices and futures.

Although IXIS' deployment had a large number of variables, Van Der Walt had planned the transition to virtualization so thoroughly that he initially questioned the need for a TAM. However, IXIS had purchased an Enterprise License Agreement, and all ELA customers are strongly encouraged to engage a TAM to ensure their company's success, and address any unforeseen issues.

Van Der Walt quickly realized the benefits of the TAM program when one of his hardware products was found to be incompatible with future versions of ESX Server. The TAM was instrumental in collaborating on a revised hardware deployment plan to enable IXIS' project. Van Der Walt continues to realize the many benefits of working with a TAM, and he cites the TAM as a key contributor that helps ensure a smooth transition to VMware virtual infrastructure. "Our TAM is totally dedicated to our success," he says. "All projects have bumps in the road, especially when they're moving this fast with so many variables. He helped us quickly correct issues, and worked with our other vendors to make sure we had the right platform to meet our needs. Even more importantly our TAM provides IXIS with strategic guidance on new uses of VMware technology to support our business."

Now that IXIS has completed the initial phases of its physical to virtual migration, the TAM is helping the company explore new cutting-edge VMware solutions. "We have to look beyond basic server consolidation. In our business, we have to be up and running 24 hours a day, seven days a week with the highest performance levels. Our TAM is now working with us to develop VMware-based solutions for disaster recovery, business continuity and virtual desktop infrastructure."



### **Future Looks Bright for IXIS Virtualization Strategy**

As he constantly keeps an eye on the company's bottom line, Van Der Walt hopes to take VMware virtual infrastructure to an even higher level. "Our next big push will be to leverage grid technologies for our CPU intensive trading applications on VMware," he says. "This will further boost our management efficiency and application performance."

Another project on the horizon is the virtualization of the desktop layer. "If I could virtualize the desktop layer, we could realize even more costs savings as well as enhance business continuity at time of test or disaster," he says. Van Der Walt is already evangelizing VMware to IXIS' Paris headquarters, who have expressed interest in the technology.

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