



## Monroe Shine Credits VMware for Capitalizing IT Servers

### VMware Creates Labor-Saving Credits by Virtualizing Monroe Shine IT Infrastructure

#### Using VMware Virtual Infrastructure to Manage Mixed Portfolio of Hardware and Operating Systems

Monroe Shine is a regional certified public accountancy that provides tax, auditing and assurance, accounting, estate planning, administrative, wealth management, business valuation, management consulting, business succession planning, and technology consulting services for regional and national clients in the United States. Monroe Shine's clients include companies ranging from small, professional service businesses to multimillion-dollar corporations in the financial, manufacturing, real estate and development, and nonprofit sectors. The company has office locations in New Albany and Bedford, Ind., and Louisville, Ky.

At peak tax season, all of Monroe Shine's 72 consultants access applications using VMware virtual infrastructure. All the day-to-day desktop and major IT infrastructure support for Monroe Shine is managed by Infinite Solutions, a Monroe Shine Company that provides outsourced IT services and solutions. Roger Harbeson, vice president of Monroe Shine, manages the Infinite Solutions relationship for Monroe Shine's IT requirements.

#### Monroe Shine IT Systems Were Over-Taxed, Didn't Account for Compounding Future IT Needs

In May 2004, Monroe Shine decided that an assessment of the company's technology capabilities was needed as well as an appraisal and evaluation of future needs. The review showed too many disparate and antiquated systems at risk of failing at the drop of a dime.

"We had been using a wide array of hardware, from late model Dells to very old Compaq servers— some of which you can't even find parts for," says Harbeson. "In addition, we were running critical applications on Windows NT4 and Windows 2000 operating systems."

To sum up, Monroe Shine needed to upgrade its operating systems to Windows 2003 for increased performance, security and auditing of client data, implement a reliable hardware platform to support future growth toward electronic storage, and improve manageability and disaster recovery.

#### Calculating the Technical and Financial Feasibility of VMware

Infinite Solutions had already used VMware software for an in-house Microsoft SQL Server-based application and knew VMware virtual infrastructure would meet Monroe Shine's needs for future growth. Infinite Solutions analyzed the cost of purchasing eight new servers to replace the existing antiquated ones vs. purchasing two servers and using VMware

### RESULTS

- Decreased labor costs
- Improved processor utilization from less than 10 percent to approximately 70 to 80 percent
- Centralized management of all virtual machines within the network
- Reduced deployment cycle times for new application servers from weeks to minutes
- Hardware cost savings of more than 45 percent

**"We've always been committed to proactively developing and following five-year business, marketing, succession, and staff plans, but our IT decisions were one-off and reactive. Our IT system was a liability, but with VMware virtual infrastructure now in place, it is an asset. Once we've upgraded all our servers to the same type of processors, we hope to have everything in all locations running on VMware virtual infrastructure."**

*Roger Harbeson  
Vice President, Monroe Shine*



## VMWARE VIRTUAL INFRASTRUCTURE AT WORK

- VMware Virtual Center on single CPU Dell PE2500
- VMware GSX Server running on 2-CPU Dell PE2650
- VMware ESX Server on two 2-CPU Dell PE2650s and one 4-CPU Dell PE6850
- VMware Virtual SMP
- Guest operating systems include: Microsoft® Windows Server NT4, 2000 and 2003
- Applications running in production on virtual machines include: CCH ProSystemsFX Tax and Accounting Suite, FAS Sage Asset Appreciation, SunGard Corbels' Relius (Oracle Data Base) and CCH Engagement (a SQL based paperless office solution)
- Other types of applications running in virtual machines include: proxy to cached web pages, email, and Relius, an employee benefits suite of software

virtual infrastructure technology. It concluded that virtualization would provide a savings of more than \$21,000 while providing 32 times the processing and storage capacity.

"We didn't even consider other products," says Matt Stearly, president of Infinite Solutions. "At the time, Microsoft didn't have a solution, and though there were a few other systems out there, nothing came anywhere close to performing as well as VMware virtual infrastructure. We knew the solution would meet Monroe Shine's needs to consolidate servers and upgrade operating systems, plus we knew it would bring other benefits such as increased efficiencies and cost savings."

### Turning Liabilities into Assets: Virtualization Begins

The first phase of the implementation was to virtualize a single Windows NT4 server running an older application used by eight individuals. The system was virtualized in one night without issue or complaint from the users, and the remainder of the consolidation project followed suit.

"We virtualized one server each night," says Stearly. "The users never knew that their applications were running on virtual machines."

Eventually, all eight existing servers in New Albany were consolidated onto new Dell PowerEdge 2-CPU PE2650s with VMware ESX Server, VirtualCenter and VMware Virtual SMP. (Virtual SMP makes it possible for a single virtual machine to span multiple physical processors.) Then, operating systems were upgraded to Windows 2003, except for a couple of older proprietary applications that could not be upgraded are running in virtual machines on Windows 2000 and NT. Infinite Solutions completed the implementation in about six weeks.

"The rollout was so seamless and easy, we've since virtualized the servers in our Bedford and Louisville locations," says Harbeson.

### The Numbers Didn't Lie

By implementing VMware virtual infrastructure, Monroe Shine so far has achieved the following results:

- **Labor Savings.** The templates, undo mode, and single console provided by VMware virtual infrastructure save time and labor for a number of tasks. "Undo mode saved us a significant amount of downtime," says Harbeson. "One night while upgrading the primary application server to Windows 2003, it became evident after the upgrade that the primary application wasn't running on Windows 2003. The engineer was able to undo the changes and have the server back up and running in 30 minutes. That allowed us to be ready for business in the morning while the engineers continued to resolve the problem in the lab."
- **Reduced Hardware Costs.** Without VMware software, upgrading the New Albany servers to new hardware would have cost an additional 45 percent — not including the additional money saved on labor and power by avoiding hardware expenditures.
- **Added Stability.** One problematic application that could not be upgraded to Windows 2003 at the time of deployment now runs in its own virtual machine, reducing hardware issues and increasing application stability.
- **Easier Administration.** VMware VirtualCenter eases the strain on administrators with its single management console, undo mode and templates, and ability to do quick provisioning. The result is simple administration that can be done from a remote location and is invisible to the user.
- **Crisis Management.** After performing an upgrade to the tax software at night, the application corrupted itself and was unusable. Since software support was unavailable until morning, a new server was created from a template and the application up and running within 30 minutes and ready to use in the morning. Once support was available, the source of the corruption was resolved and the upgrade implemented successfully with no down-time.



- **Due to new hires, the current terminal server was overloaded and sluggish.** By replicating the disk images, a second duplicate server was created without having to reinstall or reconfigure all the needed applications in roughly 30 minutes. This allowed for splitting out the users to different servers and distributing the load.
- **Improved Hardware Utilization.** Monroe Shine's old servers were running at a maximum of 10 percent CPU capacity, whereas the current server CPUs now operate between 70 and 80 percent.

### Looking Ahead

Monroe Shine plans to make VMware a permanent line-item in its asset column. "We've always been committed to proactively developing and following a five-year business plan, marketing, succession, and staff plans, but our IT decisions were more reactive," says Harbeson. "Our IT system was a liability, but with VMware virtual infrastructure now in place, it is an asset. Once we've upgraded all our servers to the same type of processors, we hope to have everything in all locations running on VMware virtual infrastructure."

### About Infinite Solutions

More than just a name, Infinite Solutions is the reality made possible by building a unique group of highly qualified, certified and experienced IT professionals. Such a wide scope of IT capabilities available in one office is unusual - the benefit realized is fast, solid, proactive solutions for today's complex systems. Building long-term relationships with our clients naturally leads to a clear understanding of their unique business requirements. This day-to-day familiarity helps to build systems that will increase your productivity and profitability.

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