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[ Feature ]

## The Art of ROI

These five technologies can help companies make the most of their IT budgets.

By Karen D. Schwartz

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Photo: Max S. Gerber

Hosting company Media Temple powers its infrastructure on virtualization, says Alex Capehart.

Efficiency, cost savings, strategic spending, return on investment: These are the mantras for companies today — especially small and mid-sized organizations that must economize and find efficiencies wherever possible to remain profitable.

Running lean and mean involves taking a good, hard look at the technologies you're using. What's providing the most benefit for your money and what's weighing you down? Answering that question will help you get the best return on your dollar, and often that means moving to newer technologies.

"Larger economic concerns have virtually all organizations watching their wallets and demanding predictable, measurable returns on their IT investments," says Charles

King, principal analyst for Pund-IT of Hayward, Calif. "To their credit, IT vendors continue to develop innovative solutions that are more powerful, energy efficient and less costly than previous-generation technologies."

There are a handful of proven technologies that increase efficiency and provide a high return on investment. At the top of the list are virtualization, thin clients, blade servers, netbooks and multifunction printers. These very different technologies share some very important similarities — they allow companies to reduce their physical technology infrastructures, save energy and do more with less.

### The Reality of Virtualization

One of the biggest trends for smaller companies these days is virtualization — creating a virtual, rather than physical, version of servers, operating systems, storage devices or network resources. The savings can be staggering: Squeezing the workloads of 30 or 40 servers into a handful of machines, for example, can cut power consumption by more than 70 percent, not to mention reducing outlay and maintenance for physical devices.

For Media Temple, a Los Angeles-based web hosting and software application services company with about 130 employees, virtualization was the only way to grow the business and provide the server power users wanted while maximizing profits. In 2001, company executives decided to move away from a traditional hosting environment, opting instead for **Parallels Virtuozzo Containers**, a Linux-based solution that delivers up to 1,000 virtual servers per physical server by creating isolated "containers" on a single physical server and operating system.

The company now deploys 15 or more virtual environments with Parallels Virtuozzo Containers per physical **HP ProLiant** server, along with customized controls. "The return on investment with our virtualized environment is really incredible," says Alex Capehart, the company's vice president for business development. "Our CFO has said that the ROI is so good

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Less than 10% of SMBs

that we are reluctant to share the details publicly.”

Capehart did say that the ROI is well under one year. Measured on reliability, he says virtualization can't be beat. And because the footprint for the solution is relatively small, “we can put more on a large physical server while still giving our customers plenty of room for what they need to do.”

currently use virtualization, with use considerably higher among midsized businesses than small businesses.

Source: IDC

## Virtually Thin

Four Winds Interactive, a Denver-based digital-signage company, is adding thin clients combined with virtualization to its technology roster. With the new model, the 50-person company can deploy twice as many digital signs per day, increasing profits while providing a low-cost solution to its customers.



Photo: John Johnston

For example, the company recently deployed a thin-client solution for the 70 meeting rooms at the Sheraton Hotel in Dallas. Outside each meeting room sits a **Wyse Technology S10 thin client** attached to an LCD monitor, displaying the events that will take place in that room during the day. The thin clients are connected to a single **VMware** server running 70 virtual machines, located in the Sheraton's data center.

**Four Winds Interactive drastically cut the amount of time it takes to deploy digital signage to its customers by using thin clients, according to Nathaniel Buelo, director of IT.**

“The thin client is a new approach for us, but we have found it to provide the most bang for our customers' buck,” says Director of IT Nathaniel Buelo.

“With the solutions we usually deploy, it can take two weeks to get an entire hotel up and running, but with the thin client, it's up in three days.”

Perhaps even more impressive, the thin client solution — especially for 15 or more digital signs — is much less expensive for the customer. The hardware for the traditional kiosk can run about \$1,700 per sign, while the thin-client solution is about \$600 per sign.

To measure the ROI, Buelo's team simply added up the cost of the unit, taking into account the VMware licensing fees, the cost of the server and the cost of each Wyse terminal, and compared it to the company's standard solution, which consisted of either a small form factor PC with display or kiosk, and then divided it by the number of signs needed.

“We get savings from all angles — from the hardware itself to the speed of installation to the reliability,” Buelo says. “We're sold on the concept.”

## Saving Money, Space and Headaches

For companies that process or store tremendous amounts of data, the biggest innovation and cost-saver in recent years has been the blade server. The concept is simple: Instead of buying and managing dozens or hundreds of individual servers, invest in a rack of several blades, each functioning as a separate server with its own CPU and memory.

That approach made a great deal of sense for BlueLock, an Indianapolis-based company that provides “infrastructure as a service” — essentially server capacity on demand. The 20-employee company sprung to life three years ago as the next chapter for its management team, which had previously run a traditional outsourced data center, complete with thousands of standard rack-mounted servers.

When it came time to move to the new business model, “it only made sense to move to blade servers, considering the amount of servers we would need, the rate we expected to grow, and the savings we could accrue,” says Chief Technology Officer Pat O'Day.

To make sure it was the right move, O'Day ran the numbers. He compared an HP rack-mounted server, multiplying the cost by 16, with a similarly configured blade environment.

“It quickly became clear that if we were going to buy more than a few servers, the cost of the chassis and some of the overhead in the blade environment disappears with volume,” he says. “And we knew we would be buying a lot, so the lower cost per server was important.”

But capital cost was only part of the equation. Equally important were the heating and cooling savings the company would accrue, thanks to fewer total power supplies, fewer fans and the higher voltage that blades run on, which is more efficient.

As a result, BlueLock runs on about 120 **HP ProLiant BL460c** server blades, most with the c7000 chassis.

Blade servers are a particularly good fit for small and midsized companies because they tend to have tight IT budgets, limited space and often only standard power and cooling, says Clive Longbottom, a director at U.K.-based analyst firm Quocirca.

## Simple Changes Add Up

For some businesses, a change as basic as a replacement of existing printers, fax machines and scanners can have a big impact on the bottom line. In general, moving to a multifunction printer — a unit that combines printing, scanning and faxing into one — reduces energy expenditure and allows companies to retire old fax machines, scanners and printers. And the benefits are making companies think seriously about it: According to IDC, more than 80 percent of small and mid-sized businesses now own MFPs.

More than **80%** of SMBs own multifunction printers, and more than one-third plan to buy MFPs in the next 12 months.

Source: IDC

Felix Erickson, a Mount Holly, N.J., provider of bowling products and lane service, recently retired an old fax machine and printer in favor of a new **Xerox Phaser 8860** solid ink multifunction printer. Doing so has made producing the hundreds of color catalogs and thousands of flyers it churns out each year much less expensive. What's more, the company now has scanning capability, something it didn't have before.

"With the old printer, the cost of consumables was between \$1,800 and \$2,300 per year, and the cost of using the fax machine added another \$80 per month," says Sales Manager Curt Appleby. "With this system, we save all of that money; it should pay for itself in 18 months."



Photo: Robert Houser

**The Olympic Club saves money and trees by giving board members documentation on netbooks rather than hard copy printouts, Tony Lawrence notes.**

### Big Results From Small Machines

Even something seemingly as simple as replacing paper meeting agendas and any supporting documentation with netbooks can have a big payoff. That is certainly the case for The Olympic Club, a San Francisco-based amateur athletic club with more than 5,000 active members.

Traditionally, the 12-member board of directors, which meets at least twice a month, received packets of 80 to 150 pages of documentation to review before each meeting, with an additional packet supplied to them on the day of the meeting. That added up to tens of thousands of printed sheets per year for the directors alone.

"When we really started looking at how much paper was being printed and the postage and labor costs we incurred in sending them to each director numerous times per year, we knew we could do better," says Tony Lawrence, IT director for the 300-employee company.

One of the board members mentioned that the San Francisco city government had moved to notebooks for meetings, and the idea spurred Lawrence's team into action. Although notebooks were expensive and more powerful than the board needed, netbooks seemed to fit the bill.

A series of simple calculations helped Lawrence determine the ROI of such a move. He multiplied the average amount of paper used for a single meeting by the number of meetings per year, and added in postage and labor. He then compared that cost with the cost of the netbooks.

"We determined that for the board of directors meetings alone, we could justify the cost of the netbooks," he says. "And if we roll it out for all of our committees, the netbooks will pay for themselves within a year."

Armed with that information, The Olympic Club purchased about a dozen **HP Mini 2140 Notebook PCs** — 2.6-pound units with 10.1-inch LED screens and full QWERTY keyboards.

Today, board members receive an e-mail copy of the agenda and supporting documentation. They are issued netbooks loaded with the documents they need when they enter the boardroom and relinquish them after the meeting.

"If the board of directors experiment works, we will roll it out to the smaller committees and also use them for internal meetings and employee training," Lawrence says. "We think we'll get more than our money's worth from them."

### Measuring ROI

In the simplest terms, return on investment is a comparison of the costs and benefits of a technology over a specific time period. But in reality, measuring ROI is as much an art as a science. Here are some pointers:

- Make sure you're comparing apples to apples. For example, if you are comparing the performance of a traditional server with a blade server, make sure you are using the same amount of memory and capacity.
- Don't go it alone. There are many effective ROI calculators out there, including this go-to calculator from Microsoft: [www.microsoft.com/virtualization/why/roi](http://www.microsoft.com/virtualization/why/roi) and this provided by VMware: [www.vmware.com/go/calculator](http://www.vmware.com/go/calculator).
- Work with your vendors to create a measurement framework. Individual manufacturers also often have ROI calculators available for the specific technology you're considering.
- Make sure you benchmark results before and after deployment.

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