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## 4 reasons "virtualization" saves money

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Most articles about virtualization discuss the technology in the context of "big" business. They are glowing about the potential for "data center consolidation" or "reduced system maintenance expenses." Or they rave about the prospects for a better disaster recovery plan, better security and extra flexibility for employees.

What about small business? The good news is if you are a small business owner, there are plenty of short- and long-term benefits from virtualization-and you don't need a big budget. (That makes virtualization attractive in a brutal economic climate.)

So what is virtualization? Quite simply, it is technology that explodes the traditional one-to-one relationship between computer hardware and the software that runs it. Virtualization software allows you to create two or more complete computing environments on a single piece of hardware. The proliferation of systems with multi-core microprocessors has made virtualization possible across a wide range of business applications.

Here's a big benefit: Instead of buying more than one server for your growing small business, you can "virtualize." In fact, many things can be virtualized beyond servers: desktop systems, storage devices and even networks. Virtual memory, for example, allows a computer to "borrow" from disk storage to extend its available memory resources-enhancing the user experience without you even realizing it. Likewise, one physical server, which runs one application, can be transformed to look like multiple servers when virtualization technology is applied.

"The key message is really focused on cost savings," says MJ. Shoer, president and virtual chief technology officer for Jenaly Technology Group, Portsmouth, N.H., which provides IT services for small and mid-size businesses. "In terms of managing the server, it doesn't really change anything. At the same time, we have found that it opens up new opportunities for new applications and processes."

The benefits of server virtualization for small businesses are many. The good news: If you use Microsoft software as your technology infrastructure, you will reap the benefits, since server virtualization is a core consideration and principle of the [Microsoft Windows Server 2008](#) platform through the Hyper-V product.

Without getting too esoteric, there are four tangible benefits your company can realize by investing in a virtualization strategy.

### **1. Add another business application or database without increasing the number of physical hardware servers you have to worry about.**

No matter how good you are at financial planning, it's tough to anticipate when your company may need to accommodate an influx of new employees or new customer accounts that could put a strain on your technology resources.

Shoer cites the example of a client, an 18-person business, that was already running two servers and that was evaluating a new, dedicated system to run a customer relationship management (CRM) application. Shoer's team determined that by investing in slightly more robust multiprocessor hardware, the customer could replace one of its existing servers with a virtualized machine that ran both the new application along with the old ones. What's more, the investment laid the groundwork for its team to work remotely, while still retaining access to the applications they needed to do their jobs.

The server hardware that Shoer's customer bought in order to make this happen was on the high side of what it would have had to pay for a dedicated server (between \$5,000 and \$10,000), but it now only needs to be concerned with the ongoing maintenance costs for one piece of hardware that acts like two servers. So, the company still has only two physical servers to manage, but it has extended the productivity of its employees while adding another application.

### **2. Cut back on energy consumption and technology maintenance costs.**

Microsoft customer HotSchedules in Austin, Texas, which offers online scheduling services for the restaurant and hospitality industry, and serves as one of Microsoft's case studies for virtualization, was able to accommodate rapid growth by migrating to Windows Server 2008 with the Hyper-V virtualization technology.

Because HotSchedules provides online services as its core product offering, each time it adds a certain number of new customers, it needs to invest in the technology backbone to support their accounts seamlessly, even in times of peak usage. Before it moved to a virtual architecture, the company reported that it would sometimes take weeks to provision a new server. With Hyper-V, that process has been cut down to a day or less. What's more, the case study reports that by running up to 19 virtual machines on each of its physical servers HotSchedules was able to reduce power costs by up to 77% compared with the energy it would have needed to run a comparable number of "real" systems.

Energy costs and maintenance concerns were two big considerations for Linda Chan, senior information technology director of Veeco, a midsize manufacturing company in Plainview, N.Y., who was asked to organize a corporate facility consolidation that combined two nearby facilities.

Chan says virtualization made sense for her organization because her company was able to save space, cut its energy consumption and respond to requests for new applications or increased processor power in a matter of hours. Her company realized the return on its investment in new servers and the virtualization software within 18 months.

She advises those considering virtualization: Invest in a server assessment to determine whether virtualization is right for your company. That's because some server applications, such as ones that rely on specialized peripherals or add-on cards like fax servers or engineering applications, cannot be used in a virtual environment. Veeco's assessment provided valuable financial information Chan needed to prove the case for virtualization to her CEO.

"We were able to achieve getting greener," she says. "I can now bring up a server in a couple of hours, or less than that. I've had times when a server is underpowered, and I've turned on another processor. These are things I couldn't do if we hadn't virtualized."

### **3. Enhance your disaster recovery plan.**

One very real strategy made possible by virtualization is a disaster recovery plan.

Guy Baroan, founder and CEO of Baroan Technologies, an information technology solution provider in Elmwood Park, NJ., says virtualization allows a small business to create ongoing back-up snapshots image of a database or business application that can be replicated in more than one place.

If the main piece of hardware fails, the application can be restored from the fail-over server in a matter of two hours versus 72 hours. Most small businesses are horrified by the thought of their systems being out of commission for more than a day, so this message really resonates, Baroan says.

The rise of quad-core server hardware has made this process simpler and more affordable. "This might cost a small business a little more in terms of RAM or storage, but they can do so much more with that one server and the virtualization software," Baroan says.

### **4. Stretch your technology budget.**

Jay Tipton, CEO of Technology Specialists, a company in Fort Wayne, Ind., that provides technology services to small businesses, called on virtualization to help a 15-employee company that needed to run multiple e-commerce sites for its business. The licensing for the software application used to run the stores required them to be managed separately.

Tipton says this business may have been forced to buy and set up three different hardware servers. But it was able to buy a single system to run all three stores—running separately using virtualization software. This same company added another virtual server that allows employees to access certain databases remotely, Tipton says.

Koji Mori, director of network services for Calsoft Systems, a technology services company in Torrance, Calif., says pressure is building for small businesses to realize incremental value out of their spending, and technology is often the first place they should look.

Virtualization is compelling because it enables short-term and long-term cost reductions in systems maintenance, office real estate and electrical footprint. The additional upfront expense comes in the form of the virtualization software, which he says is minimal if you use a Microsoft platform; a hardware upgrade or refresh; and some additional implementation services. At a minimum, this will be 20% less than the cost of buying a second server, Mori says.

Companies with as few as two servers can realize an immediate benefit from virtualization, he says. "The situation is very rare where someone cannot handle a virtual environment," he says. "We've migrated things as old as Windows NT 4 applications onto virtualized platforms."