MSP'S GUIDE TO

Virtualizing Servers

The Windows Server 2003 R2 support deadline presents a unique opportunity to show customers the benefits of server virtualization. **By Scott Bekker**

The Microsoft product lifecycle is a huge topic right now. Windows XP and its April 8, 2014, extended support deadline is the main focus. Also garnering attention are Office 2003 and Exchange Server 2003, which lose extended support at the same time.

Many of the opportunities related to those support deadlines are played out, though. Customers with budget to spend on their next platform have mostly moved on. But another Microsoft product is entering the sweet spot as it relates to support deadlines. Extended support for Windows Server 2003 R2 will end in a little more than a year on July 14, 2015.

The end of extended support means Microsoft will no longer provide security patches after that date, making the use of the product in any Internet-facing or even networked capacity extremely risky.

That Bastille Day 2015 deadline marks an opportunity for partners to scan within and beyond their customer bases for businesses running aging Windows Server 2003 systems in need of replacement. It's an especially good time for those customers to consider virtualization.

Windows Server 2003, which launched in April 2003, shipped into a very different world than the one IT inhabits today. Marrying a single physical server to a single OS was the rule. Of course, VMware Inc. was building an empire on virtual servers, but the bulk of Windows server deployments in those days were of the 1-to-1 variety. By the time Windows Server 2003 R2 came out in December 2005, Microsoft was already bundling in nods to the growing importance of virtualization. Licensing for the Enterprise Edition of Windows Server 2003 R2 allowed up to four virtual instances per physical instance and the Datacenter Edition allowed unlimited virtual instances. Microsoft's own Hyper-V technology wasn't available in fully supported release form until June 2008, well past the Windows Server 2003 release era.

In that light, much of the remaining installed base for Windows Server 2003 R2 is in 1-to-1 scenarios, especially among small to midsize business (SMB) customers, who have been slower to adopt virtualization technologies than their larger counterparts. Many of those customers have yet to experience the benefits of server virtualization in their environments.

Where to start with those customers still living in that world of one box/one instance of Windows Server 2003 R2? It's probably best to dust off some of the basic

arguments from five years ago when virtualization wasn't as ubiquitous.

1. SAVE MONEY

The first and most compelling of the virtualization benefits is the price. There are a number of ways that virtualizing servers can bring down a customer's computing costs.

A big one is the reduction in hardware. Customers moving from Windows Server 2003 will generally be running servers that are nearly a decade old. There's going to be an upgrade cost for the hardware, but virtualization will allow them to run server applications that used to require a handful of servers before on just one box now. While a server capable of handling multiple production virtual machines (VMs) might require more comparative horsepower than the servers of the Windows Server 2003 era, the ongoing operation of Moore's Law means you get a lot more server for the price now than you did then anyway. Given the usual advances in other server components over time, along with green computing-inspired improvements in efficiency, that new server is likely to use less energy than the systems it's replacing.

There's also going to be less wasted capacity. A few Windows Server 2003 R2 systems running one OS and server application left a lot of compute cycles unused for the power and floor space they required. The newer system running several VMs should hum along at much closer to its capacity.

Every customer's mileage will vary. OS, VM and VM management software licensing is complex. The guidance of a knowledgeable partner is critical in avoiding potential licensing cost traps. One other major caveat is the tendency among some customers to get excited about what virtualization can do and start loading in more applications, backup versions and testing-focused VMs than anything they had before. While this can lead to a higher-priced environment than the one it replaces, there's a good chance it's providing much more computing power and value for each dollar than the old system.

2. FLEXIBLE STORAGE, FLEXIBLE RECOVERY

Virtualization makes a customer's infrastructure dramatically more flexible. One of the areas where that's most apparent is when it comes to storage, backup and recovery, disaster recovery, and high availability. The abstraction of the workload from both physical server and physical storage suddenly opens a window on a number of storage-related scenarios. The ability to move backups around greatly increases options with backup and recovery software, enabling high-availability solutions that might offer a business a much-improved ability to stay

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online during a disaster.

The importance of any particular physical server diminishes, as well. When a physical server fails, VMs can be restored to other hardware relatively seamlessly. (One important counterpoint, however, is that in an SMB environment where a number of virtual servers are consolidated onto only one physical server, the difficulties caused by the failure of that server increase rather than decrease. There are ways around it, but it's a scenario to keep in mind.)

Another positive about virtualization is the ability to migrate virtual servers from one machine to another later—for example, in a future server hardware upgrade or in a merger and acquisition.

3. SCALING UP

Every business, no matter how small, is looking to grow. When that happens, having a virtualized infrastructure can make it substantially easier to scale up. Being able to migrate VMs to higher-capacity servers or to replicate VMs to create load-balanced capacity are some of the many scale-up scenarios that virtualization can allow.

4. HIDING FROM THE CLOUD

The elephant in the room with the virtualization discussion, especially with SMB customers, is the cloud. Many of the advantages that virtualization holds over 1-to-1, server-to-OS environments are handled more efficiently for customers by moving to cloud solutions. After all, Microsoft is moving aggressively to convert its base of Windows Small Business Server customers into Office 365 customers—with the e-mail server, file sharing and collaboration occurring in Microsoft datacenters rather than in the customer's office. Cloud removes a lot of the on-premises server management concerns, which can be

as challenging, if not more, in virtualized server environments than they were in 1-to-1 environments. But cloud computing isn't for everyone.

The revelations by self-exiled U.S. National Security Agency contractor Edward Snowden provide some of the many reasons customers worry about trusting their data to the cloud. Before Snowden revealed details of the NSA's comprehensive and aggressive efforts to collect data from Microsoft, Google Inc., Yahoo Inc., Facebook Inc., AOL Inc., Apple Inc. and others, the cloud security story was mostly theoretical. The argument went that although data outside the firewall is outside the end user's control, the security practices and expertise of a public cloud provider greatly exceed the capabilities of the in-house administrative staff of most private companies.

Snowden, however, turned what seemed like paranoid fears into a real-world case study. He provided classified documents that suggested complicity by big public cloud providers in the NSA's data collection efforts, and other reports revealed how the NSA had tapped data pipes between Google datacenters, compromising the security of data that Google engineers had thought was safely behind the firewall. The big public cloud providers all vigorously denied providing backdoors to the NSA into their data and several instituted rigorous new data-encryption procedures to reassure customers. Nonetheless, despite their security expertise, the big public cloud providers also prove to be juicy targets—a situation illustrated by the NSA's efforts, but probably also true of cyber attackers of all stripes.

Any Windows Server 2003 R2 customer worried about data security can keep everything behind an internally managed firewall by upgrading to server virtualization rather than the cloud for more internal scalability. (For perspective, staying on unpatched Windows Server 2003 R2 after July 2015 is probably far more risky than storing data with almost any cloud provider.)

Data ownership is another common concern of cloud critics. While public cloud vendors provide assurances that customers continue to own their own data, specifics of migrating that data out of a public cloud and putting it back behind a customer's firewall or in a different cloud might not be straightforward or could even be impossible. Keep your own data behind your own firewall, and you can always access it. On a related note, if you have a problem with data behind your own firewall, you know whose fault it is if something happens to it.

Those customers who aren't ready to trust their infrastructure to megavendors such as Microsoft or Google can get some of the advantages of more modern systems from a virtualized environment. Having that local, virtual environment configured and administered by a trusted managed services provider

(MSP) can be even better. It keeps the control and the data on-site, while still providing professional expertise from the MSP that the customer might not be staffed to maintain.

5. MOVING TO THE CLOUD

For those customers that don't feel the cloud is ready for them, a virtualized environment can be a good half-step in another way. Setting up a virtualized environment in-house has a lot of benefits. But if the customer decides later on that it's comfortable with putting its infrastructure in the cloud, it can be much easier to move to a hosting provider if the servers are already virtualized. Not only that, but the customer can dynamically move workloads back and forth between hosting providers and its own virtualization-capable servers to meet changing demands or to test which way works better.

6. TESTING AND QUALITY ASSURANCE

One of the oldest uses for virtualization is testing and quality assurance. A lot of companies running Windows Server 2003 R2 may not have had the capacity to set up test scenarios on old hardware that was dedicated for specific workloads. Virtualization opens new possibilities for setting up VMs specifically as test environments. Now, administrators or the customer's partners have the ability to spin up test VMs for new business applications, for software upgrades and for security patches. Testing new configurations before they go into the production environment can highlight problems before they cause outages in the production system. Catch a few problems before they cause downtime for the business and the virtualization upgrade can start paying for itself early.

Virtual servers are also handy places to test new business applications or for training. Meanwhile, organizations exploring software development as a way to generate some intellectual property based on proprietary methods or business experience can save money by creating test environments in a VM rather than dedicating new hardware to the task.

Windows Server 2003 R2 customers have a lot of options, including upgrading to an on-premises 1-to-1 server, going to the cloud in various ways or virtualizing in-house. Those looking for a combination of control, flexibility and potential cost savings would benefit from giving virtualization a long look, but not too long a look. When it comes to server migrations, July 2015 isn't far away. •

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