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Moving Away from Windows Server 2003: The Time is Now

Introduction

If your agency still relies on Windows Server 2003, the time to think about migrating is now. Waiting is dangerous; Microsoft will stop supporting the operating system in July of 2015, and the company estimates that an average Windows Server migration takes at least 200 days to complete. Yet according to a survey by HP and Microsoft, 60 percent of impacted customers don't have a plan for migration.

Since 2003, many agency systems have come to depend on the powerful operating system, which provided many capabilities that the federal government relied on, including advanced security. But as requirements changed and agencies began to require faster processing, adopt virtualization and mobile technology, and deal seriously with big data, Windows Server 2003 began to show its age.

When Microsoft stops supporting Windows Server 2003, it will mean that the system is frozen in time—no more security patches, updates or fixes will be issued. In an Information Assurance Guidance memo, the NSA strongly encourages agencies to upgrade, noting that relying on a non-supported operating system can lead to significant security vulnerabilities. And once security upgrades stop, agencies will be much more vulnerable to falling out of compliance with applicable security regulations.

Doing it right

While it might be tempting to install a newer version of Windows Server on existing hardware, resist the urge. Running a newer version of Windows Server on older hardware will result in extra cost, declining performance and increased security risk.

Even if older servers are supported by current Windows Server drivers—and many aren't—performance may suffer. Gartner found that about one-third of the servers in a typical data center are more than four years old, and that those aging servers contribute only about four percent of the total performance capabilities of the data center while consuming 65 percent of the overall energy.

In addition to spending more money on supporting outdated servers and software, agencies also will begin to run into problems trying to deliver new services on older servers. Older servers don't have the capacity, performance or flexibility to take advantage of big data, virtualization or cloud-based services, or the addition of mobile devices to the infrastructure. These newer solutions require more processing power than ever before.

"Unfortunately, some data center managers make the mistake of assuming that the enhanced intelligence of today's platforms and operating systems (including Windows Server 2012 R2) somehow offset the role of the hardware," said a recent Frost & Sullivan report. "Thus, they continue to rely on old or low-cost commodity hardware, even as their workload performance decreases and data center costs increase. Today's high performing hardware is often a workload-optimized, intelligently managed system."

The good news is that upgrading the hardware along with the software doesn't cost that much more than upgrading the software alone. That's because there is no direct upgrade path for the operating system; it requires reinstalling the operating system, since the older software is based on a 32-bit architecture while the new software runs at 64-bit. Most of the cost of the overall project is related to software, tools and labor, not for the hardware itself. And if the new installation is virtual, the hardware cost is very small since that cost is shared by the other virtual instances on the physical system.

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The combination of upgrading both software and hardware can result in significant cost savings. For example, by upgrading to Microsoft Windows Server 2012 R2 on HP ProLiant DL380p servers with Intel® Xeon® processors, organizations save an average of 43 percent in total cost of ownership over three years, along with a power and cooling savings of 92 percent. Running Microsoft SQL Server 2014 on that combination of technology nets an 80 percent performance increase over past generations.

Planning your migration

The first step in any migration is to take an inventory of exactly what is currently running in your environment, down to the operating system, version of applications and interdependencies with other servers and services. Without that information, any migration will run into complexity issues and cost overruns.

Using this information as a baseline, conduct a complete assessment of what it will take to complete the migration. The assessment generally includes:

- Identifying the specific servers that need to be migrated

- Pinpointing specific applications that need to be upgraded

- Prioritizing the migration by criticality

- Deciding if the applications will be run in a new on-premise infrastructure with new server technology, if it will be virtualized, or if it will be run in the cloud

Before diving into the migration, think carefully about your agency's current and future technology needs. By taking the time to do this, you can help ensure that the resulting infrastructure will keep the agency current for at least a few years. User needs are very different today, so when thinking about your users' workloads, it is critical to consider the access method and consumption model so it will meet business needs for the next three to five years.

It's also important to understand which applications will have to be updated to support the newer Windows Server 2012 R2. There will also be cases where custom applications will have to be recoded, along with any specific integration code that was developed to integrate applications. In other situations, virtualizing the application is the best way to move and rehost it on a supported operating system platform. This is a last resort, however, because it will still result in an older application that may or may not have been reviewed for more modern access methods.

If the workload is a native Windows service such as Active Directory, DNS/DHCP server, file and print services or a Certificate Server, it's best to migrate it to a new Windows Server 2012 R2 instance. Microsoft has well-documented processes for migrating these services from Windows Server 2003. Using these procedures will lead to the most stable and supportable environment, since current native code is supporting these services.

Clearly, there is a lot of benefit to be gained by migrating away from Windows Server 2003, but it also takes a lot of time and knowledge to do it right. Getting the right tools and people with the right skills is critical to the success of the project.

"It takes a lot of planning upfront to ensure that migrations go smoothly and that there is no downtime associated with the services IT provides to its lines of business," said Michael Swain, Intel's HP EG Channel Sales Director. "It makes sense to bring a partner in early and have them scope out the opportunity and concerns to make the migration as seamless as possible. The partner can evaluate your data center needs and build a timeline. It's important that you have a timeline and process that fit with your business model."

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