Windows Server 2003 End of Support
A forcing function for the Cloud

Most IT administrators are aware that Windows Server 2003 will reach the end of extended support in July 2015. Start planning now to have a smooth, easy, and cost-effective transition to new infrastructure in the cloud.

Introduction

Most IT administrators are painfully aware that Windows Server 2003 will reach the end of extended support in July 2015. This is a big deal because Windows Server 2003 has been a huge success since it was released 12 years ago. From 2003 to 2010 this platform was the workhorse for many applications deployed at organizations of all sizes. And, even though Microsoft released a major update with Windows Server 2008, most enterprises stuck with Windows 2003. Not until Windows Server 2008 R2 was launched on October 22, 2009 was there any kind of material market adoption of Windows Server 2008.

The newest Windows Server platform is 2012 R2, and little is publicly known about the number of production instances. As of the summer of 2014, however, it was widely reported that Microsoft believed there to be 22+ million Windows Server 2003 systems still running production-based applications.

Why should I move?

For the vast majority of Windows Server 2003 instances, the applications have been running just fine. For years in fact, they have been running fine and moving them seems to be one of those dirty jobs that no one wants to do. It's the old adage of "If it ain't broke, don't fix it." So, the first question often asked is, "Can I do nothing and just continue to run my business on Windows Sever 2003?"

There are many reasons why the answer to that question is an emphatic "No." Even though the operating system was released 12 years ago (in April 2003), there are still quite a number of patches that are regularly released. In 2013 alone, Microsoft released 37 critical patches. Without those patches, Windows Server 2003 servers will become vulnerable and will be out of compliance. And consider this: different versions of Windows are built on top of a shared kernel that evolves very slowly. With the end of support of Windows XP, and soon Windows Server 2003, there is reason to believe that the number of vulnerabilities will increase. When patches for Windows 7, Windows 8, Windows Server 2008, or Windows Server 2012 are released, hackers can see where the fixes are made. These patches provide a roadmap to where exploits might exist in the Windows XP and Windows Server 2003 operating systems, and hackers know that those older systems are not getting those critical patches because support for them has ended. This is why many believe that there will be a material increase in the risks of continuing to run on Windows Server 2003 after the summer of 2015.

According to a recent report by industry analyst IDC, "Customers that go beyond the termination of extended support place themselves at potential security risks and potentially in a regulatory noncompliance situation[1]. Even if regulatory compliance is not a concern, the security improvements that Windows Server 2012 R2 offers are worth adopting if just to help defend against industrial espionage."

If lack of access to critical patches and the increased number of vulnerabilities does not scare you or your organization into action there is always another side of the equation—rules and regulations. Many regulated industries—pharmaceuticals, banking, financial services, insurance, oil and gas, just to name a few—have compliance rules that strongly discourage running applications on an unsupported operating system (OS). Compliance is a strong driver to help IT organizations get budget and make OS modernization a funding priority.

As reported in the industry journal *The Register*, "To run a secure IT infrastructure —and increasingly to meet the legal and regulatory requirements of many jurisdictions—you will have to pour resources into monitoring and shielding any servers running Server 2003. You will also have to work on separating the data and applications from the operating system so that you can nuke the server back to 'known good' when the system falls to the inevitable."[2]

Another big benefit of upgrading to Windows Server 2012 is virtualization. Many of the applications on Windows Server 2003 are still running on physical hardware. These machines are old, take up a lot of space and consume a lot of power. Modernization projects can demonstrate real savings by migrating to a new infrastructure or moving the applications to the cloud. There are far reaching benefits to virtualization including portable workloads, better hardware utilization, simplified backup and recovery, and high availability.

Tackling this issue now will save money (and likely your job) while ignoring it may buy you a bit more time, but is a bad idea if you plan on keeping your job. Migrating off Windows Server 2003 is going to have to happen. Even if your company is willing to pay hefty fees for a custom support agreement (CSA) from Microsoft, eligibility to even have that option requires you to have a migration plan in place. If you sum up the additional costs of extended support, being out of compliance, running on old machines and the increased down time or loss of data due to increased vulnerabilities, is it really worth not addressing the issue now?

[1] IDC Report: Windows Server 2003: Why You Should Get Current, July 2014
[2] http://www.theregister.co.uk/2013/06/23/windows_server_2003_reasons_to_upgrade_analysis/

Where do I get started?

There are many companies that are building products and services and are available to help. The best way to start is to have a plan. That plan should include the four phases of a migration strategy:

1. Discovery
2. Assessment
3. Target
4. Migration

And the time to start planning is now. As of this writing, there are fewer than 200 days until Windows Server 2003 hits end of support, and many people estimate that these projects will take 200 days. If you're not going to beat the clock, minimize your exposure by at least starting with the easy workloads.

According to Gartner, "There may not be much debate over the advisability of migrating all servers to a newer, supported OS, but for many IT organizations the priority for this task relative to all potential activities is too low. At this point in time, Windows Server 2012 R2 is the destination to which these older servers will be migrated. A migration of a large pool of servers to a new OS is a long and resource-intensive effort, one that must be started soon if the project is to be completed before July 2015."[3]

Most approaches follow a similar process of **discovering** all of the applications and machines that need modernization. Once a comprehensive list has been assembled and there is accurate visibility, **assessing** and categorizing the applications is next. The assessment phase informs what Gartner identifies as the five ways to migrate[4]. A critical input into the assessment phase is determining the **target** for the migration. Lastly, the process concludes with the **migration** step.

In the following sections we will break down these high level steps to provide a bit more clarity, and provide pointers to products and resources to help along the way.

Discovery & Assessment—There are plenty of tools for taking inventory and assessing your IT infrastructure. They often populate spreadsheets; categorize software, hardware and network topologies, and some report on software-specific

[3] Gartner Report: Make Migration From Windows Server 2003 a Priority, Before Support Ends in July 2015, 18 June 2014
[4] http://www.gartner.com/newsroom/id/1684114

details about well-known server components such as databases, webservers, programing frameworks (such as the .NET Framework) and SharePoint.

Commercial Tools:

AppZero PACE
Citrix AppDNA
Dell ChangeBASE
Microsoft Assessment and Planning Toolkit (MAP)

Target—In choosing the targets for hosting a portfolio of applications, the choice has to be made about which operating system to choose—Windows Server 2008 or Windows Server 2012. Moving directly to Windows Server 2012 R2 will likely provide you with the longest length of support. Keep in mind that the decision you make in remediating this threat can affect your datacenter strategy and your actual costs[5] for the foreseeable future, so it's worth reviewing all of the possible upgrade options.

While moving to the latest operating system often looks the most appealing, application compatibility and support may mean first moving to Windows Server 2008. If the application is a commercial off the shelf application (COTS) and support from the ISV is important, then checking the supported versions for a specific OS release will be important. Beyond commercial or packaged applications, many homegrown or bespoke applications use commercial components that will be subject to similar version and OS alignment and support matrix evaluations.

Beyond choosing the appropriate OS there are a range of options about where those machines should run. Bare metal or virtual? What type of cloud is best suited for the workloads? Most, if not all, of the machines currently running Windows Server 2003 are 32-bit, and more than half are not virtualized. Having to replace many machines provides an opportunity to land them on the infrastructure that can last until 2025 or longer.

Migrate

Once you have conducted your app inventory and assessment, you will know which applications you are dealing with. Next, you have to decide how to deal with each one. This brings us back to Gartner's five "R"s:

[5] http://blog.appzero.com/datacenter-ford-bezos-law

- **Replace** – Application functionality can be replaced by another app or service.
- **Revise** – The application is not supported or compatible with Windows Server 2012 and requires remediation, but will remain on premises.
- **Refactor** – The application is not supported or compatible with Windows 2012, requires remediation and will be migrated to either a hybrid or public cloud such as Amazon Web Services. Products such as Cloudamize can calculate the TCO for a current on-premises or data center workload in a cloud environment and PaaSLane, a code analysis and optimizing tool, can help developers determine how ready their company's applications are for cloud deployments.
- **Rebuild** – The application needs to be rewritten to support Windows Server 2012.
- **Rehost** – The application is compatible with a newer version of the OS. AppZero is the only automated tool that can "up-level" applications onto a new OS. The tool encapsulates server applications into containers called virtual application appliances (VAAs) to quickly deploy Windows Server 2003 applications onto a more modern OS on any machine or cloud.

To put it plainly, you have the following Windows Server 2003 end-of-support options[6]:

1. Do nothing.
2. Buy time by purchasing an expensive custom-support agreement from Microsoft.
3. Rewrite the applications to be compatible with newer OS.
4. Manually reinstall the application on a new OS, and then reconfigure and migrate the data.
5. Upgrade the OS in place and keep files, settings, and applications unchanged.
6. Automatically migrate the application as-is to a new OS.

Each of these options has associated costs:

$$$$$ Do nothing—The "close your eyes, cross your fingers, do nothing" approach is sure to blow up.

$$$$$ Buy time—Remember, you still must have a migration plan and software assurance.

$$$$ Rewrite—Expensive, long to deliver, and you may not know if most of these applications are documented with proper requirements.

[6] http://blog.appzero.com/blog/windows-server-2003-eol-mini-y2k-event-enterprise

$$ Reinstall the application on a new OS, and then reconfigure and migrate the data—This is a great idea, but odds are that some of the installation media and code will be missing, and exactly what is currently running and installed will not be quite clear. Migrating data and configurations is not easy for these aging bits.

$$$ Upgrade the OS in place: install Windows 2008 Server R2 and try to keep files, settings, and applications unchanged—This option looks promising on the surface but isn't viable once you dig deeper. The challenge is the methodology to upgrade the machines, which basically is: "Uninstall critical applications, upgrade the OS, and then reinstall the applications." This is really option #4 plus more. Also, it can be difficult to perform a rollback of the application while upgrading the OS in place, and that could lead to costly down time.

$ Migrate the application(s) to a new OS—Use an automated tool, such as AppZero, to migrate the apps to new machines and to a new OS. Some application migration tools can even move old 32-bit applications to a 64-bit OS such as Window Server 2012. If you're moving to Windows Server 2012, you can get there in one step – no need to first upgrade to Windows Server 2008.

Migration Project Roadmap

Taking on a migration project of this scope can be daunting, but it doesn't have to be. The following checklist will help you get an application migration project under way for legacy applications and will provide clarity into many of the factors you will need to consider, data you will need to gather, and steps you will follow. Each project is different, but the checklist can serve as a guide to help you get started.

- ✓ Outline the scope of the project.
- ✓ Assess the effort required.
- ✓ Assign roles and responsibilities.
- ✓ Understand the environment—IT infrastructure, software (development environment, third party software and components, OS) .
- ✓ Get a detailed view of applications to be migrated.
- ✓ Document interfaces and dependencies with other systems.
- ✓ Understand security profile, restrictions, procedures, and policies.
- ✓ Note number of servers and OS version.
- ✓ Create migration plan—including assessment, target, migration phases.
- ✓ Choose a qualified system integrator for the migration project.
- ✓ Understand the migration methodology.
- ✓ Set project deadlines.

- ✓ Scope the resources required and their availability.
- ✓ Create a definition of the project goals and priorities.
- ✓ Agree on critical success factors.
- ✓ Document application testing strategy and QA process.
- ✓ Launch migration project.

Fork in the road

It is no longer a question of if, but a question of how and when you will move your applications off Windows Server 2003. In less than a year from now, the costs will be too high to ignore. These costs come in many forms: vulnerabilities, compliance fines, and CSAs—but all of these costs can be avoided. If you don't have the internal resources to conduct the migrations, there are many SIs and VARs who have application migration practices with methodologies for conducting these projects.

Conclusion

Windows Server 2003 is becoming a catalyst for many companies that are mandated by compliance requirements to migrate applications to a supported operating system. This reality can either be approached as a security and compliance headache for business, or an opportunity to eliminate old infrastructures and move to a more modern infrastructure such as the cloud. Make the migration effort a suitably high priority, so you can gain approval and funding for the project and complete your migration before support ends.

It is possible to have a smooth, easy, and cost-effective transition to new infrastructures. Whether the destination for modernization is the cloud or new hardware, the opportunity to modernize the OS and supporting infrastructure benefits companies by:

- Reducing the risk of migrating applications
- Leaving behind antiquated systems
- Remediating Windows Server 2003 end of support quickly and cost-effectively.
- Enabling IT and business groups to work together to upgrade their server applications in a way that benefits all

Turn your Windows Server 2003 end-of-support challenge into a modernization opportunity and "up-level" your applications onto AWS. To test for yourself, try these two free resources to migrate an application to AWS: AppZero SP for AWS and AppZero Test Drive on AWS.

About AppZero

AppZero is the fastest, most flexible way to move server applications to and across any cloud or datacenter, without code change or lock-in. Encapsulating Windows applications in VM/OS-free containers, AppZero's patented software moves complex server applications with ease. AppZero allows you to modernize your infrastructure, moving from an old OS to a newer one with the click of a button - modernize and move to the cloud in one step. For more information, visit www.appzero.com and follow us on Twitter @AppZero_Inc.

About Amazon Web Services

In 2006, Amazon Web Services (AWS) began offering key infrastructure services to businesses in the form of web services—now commonly known as cloud computing.

Today, AWS provides a highly reliable, scalable, low-cost infrastructure platform in the cloud that powers hundreds of thousands of businesses in 190 countries around the world.

AWS offers a broad set of global compute, storage, database, analytics, application, and deployment services that help organizations move faster, lower IT costs, and scale applications. These services are trusted by the largest enterprises and the hottest startups to power a wide variety of workloads, including web and mobile applications, data processing and warehousing, storage, archive, and many others. For more information, see Overview of Amazon Web Services.