Don’t Worry About the Stick, the Carrot is Tasty: Migrating from Windows 2003 to a Modern Server Operating System

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What’s inside

• Windows Server 2003 doesn’t support today’s mobile, multi-device, security-conscious world.

• Modern Windows servers are designed to meet today’s business needs.

• Despite the benefits, moving to a modern operating system has been a challenge for businesses.

• Citrix AppDNA helps IT understand and resolve application compatibility issues.

• Citrix XenApp and XenDesktop provide a modern experience to end users.

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Overview

Businesses have been hesitant to move off of Microsoft Windows Server 2003, even though it is an antiquated operating system that doesn’t meet modern day business needs. The July 14, 2015 end-of-support date is serving as a big stick for some companies, which realize that lack of support can lead to significant business problems—from security risks to failing regulatory audits due to using an unsupported operating system.

For other companies, this big stick still isn’t enough incentive to migrate to Windows Server 2012 or Windows Server 2012 R2. What could help businesses leap into migration, however, is understanding the carrots: the key benefits companies can recognize with the migration.

Even with understanding the risks of not migrating and the benefits of migrating, moving from Windows Server 2003 to a modern operating system is a significant undertaking. One of the biggest areas of concern is the significant application libraries that businesses have amassed in the past 13 years since the operating system was originally released, and how or even whether these applications will work with modern operating systems and tools.

Citrix AppDNA helps businesses assess their full application library, and understand which applications will easily migrate and which require more time and effort.

Context

John Savill shared both the risks (the stick) of not migrating off of Windows Server 2003, as well as the benefits (the carrots) of migrating. Sean Donahue explained how Citrix AppDNA can help businesses overcome migration fears.

Key Takeaways

Windows Server 2003 doesn’t support today’s mobile, multi-device, security-conscious world.

When it comes to forcing businesses to migrate to newer Windows platforms, end-of-support is a big stick. Not only will Microsoft no longer support Windows Server 2003, but businesses that need to comply with regulatory requirements will fail audits if they don’t migrate to a vendor-supported platform.

Despite this big stick, many businesses are still hesitant to leave this platform that has served them so well over the past 12 years. What they aren’t considering, however, is how much technology has changed over that time, as has the way they do business.

Back in 2003, systems were more isolated than they are today. Fewer services were offered externally. Employees came into the office to do their jobs on their PCs over the corporate intranet. Internet access to corporate systems was rare.
Today’s IT and business environment is highly connected, and employees expect that all the applications they use and the data they need will be available through the Internet, via whatever device they wish to use, no matter where they happen to be. Businesses also expect that their systems can be secure despite constant attacks. Windows Server 2003 was not designed with these requirements in mind; it does not meet the expectations of modern systems.

**Modern Windows servers are designed to meet today’s business needs.**

Modern Windows servers are designed to meet today’s business challenges. Key features of these servers include:

- **64-bit operating system.** Introduced with Windows Server 2008 R2, the operating system is now 64-bit only. This will impact migration for organizations still using 32-bit hardware.

- **Standardized server functionality across versions.** Microsoft offers two versions of Windows Server 2012: Standard and Data Center. The scalability, features, and roles available in the two packages are the same; the only difference is around virtualization. Data Center is intended for businesses using virtual platforms; it allows an unlimited number of virtual machines running Windows Server. Standard is designed for physical deployments or small-scale virtualization; it offers two virtual instances for each standard license.

- **Role and feature-based management.** A role is the primary use case for a server; for example, a domain controller role or an IIS server role. Features support a server’s role, offering functionality like backup, clustering, and BitLocker encryption.

- **Minimal server installation.** Microsoft introduced Server Core with Windows Server 2008, but it became a mainstay with Windows Server 2012. It provides a low-maintenance, low-reboot environment capable of providing core server roles.

- **Remote management.** Server Core does not install a graphical user interface, but in most cases, the servers are managed from remote systems.
  - *Server Manager* enables remote management of multiple servers and multiple rules from a single console.
  - *Windows PowerShell* is a task automation and configuration management framework. Administrators can perform actions across multiple machines at once, decreasing management overhead.

Windows Server 2012 and Windows Server 2012 R2 offer other key features. The two most touted items are Hyper-V and RDS (Remote Desktop Support). Hyper-V offers enhanced Windows virtualization support. RDS accelerates and
executes desktop and application deployments to any device—PC, tablet, or smartphone—regardless of operating system. Other Windows Server 2012 and 2012 R2 enhancements include file servers, networking, and security.

<table>
<thead>
<tr>
<th>Functional Area</th>
<th>Enhancements</th>
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<tbody>
<tr>
<td>File Servers</td>
<td>Storage spaces, deduplication, ReFS, enhanced ChkDsk, FCI, SMB, NFS, iSCSI</td>
</tr>
<tr>
<td>Networking</td>
<td>IPv6, DHCP resiliency, DNS Security, IPAM</td>
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<tr>
<td>Security</td>
<td>BitLocker, Windows Defender, Secure by default, UAC</td>
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IT needs to understand the benefits these modern operating systems can provide to the business. While end-of-support is an important argument for moving off of Windows Server 2003, sharing the benefits of migrating to the modern system can be extremely powerful.

**Despite the benefits, moving to a modern operating system has been a challenge for businesses.**

Businesses are still hesitant to move off of Windows Server 2003, despite the obvious benefits of moving to a more modern version.

The first challenge businesses face is that there is no in-place upgrade from Windows Server 2003 to Windows Server 2012 or 2012 R2. In-place upgrades between the Windows Server 2003 32-bit architecture and the 64-bit architecture used by Windows Server 2008 R2 and later are not possible, so companies need to migrate.

The bigger hurdle for most businesses is understanding whether the servers in the organization can run Windows Server 2012 R2. MAP (Microsoft Assessment and Planning Toolkit) helps businesses assess their current infrastructures. MAP inventories servers and server roles deployed and reports back on which systems are ready for the migration.

Applications deployed in the organization pose the biggest challenge to businesses looking to migrate to a modern version of Windows. Not only do organizations need to know which applications are deployed, but they need to know whether they need to answer a number of questions about the applications, including whether they work in Windows Server 2012, whether they work in a 64-bit environment, whether the installation media is available, and even whether anyone in the organization has the knowledge to migrate the application.
Citrix AppDNA helps IT understand and resolve application compatibility issues.

Companies have amassed large application libraries since Windows Server 2003, and migrating to a more modern version raises concerns that these applications may not be compatible with today’s systems. Concerns go beyond compatibility issues with Windows Server 2012; there are also concerns that more modern versions of Internet Explorer won’t work with browser-based software, and for virtualized software, the applications won’t work with App-V 4.x and 5.

Microsoft’s recommended migration process understands this problem and starts with discovery and assessment phases so that IT can understand the application and workload catalog.

Migration process

Citrix AppDNA helps IT perform discovery and assessment on the entire application library. The tool, which is available with Citrix XenApp and Citrix XenDesktop Platinum products, is pointed to the application library and reads the MSI files, EXE files, and install directories. Citrix AppDNA looks for areas of interest or concern and compares the applications against potential target systems, such as Windows Server 2008, Windows Server 2012, various service packs, App-V versions, or XenApp and XenDesktop. AppDNA generates reports that show IT which applications are “green” or good to go with the various targets, which applications are “amber” or may need some additional verification, and which are “red” and need fixes before they can be migrated to the new system.

AppDNA drives the migration project

With AppDNA, you have empirical evidence of what your application landscape looks like. You have concrete ideas on how this migration could proceed.

Sean Donahue
Citrix XenApp and XenDesktop provide a modern experience to end users.

In today’s working world, users expect a consistently good experience, regardless of which device they are using and where they are working. At the same time, businesses need to ensure data and applications remain safe and secure.

Citrix XenApp and XenDesktop allow IT to virtualize applications so employees can access them from multiple devices. At the same time, these Citrix products allow IT to secure access to sensitive applications and data based on device or location.

XenApp and XenDesktop also support hybrid cloud provisioning. Businesses can decide to use one cloud provider—like Amazon Web Services—today and easily switch to another cloud provider—like Microsoft Azure—tomorrow. The products support flexibility and elasticity needed for changes in IT scenarios or business cases, and even can handle seasonal employment bursts.

Additional Resources

- For more information on Citrix and AppDNA, XenApp, and XenDesktop, visit:
  - Free AppDNA Training Course
  - Free XenApp 7.6 Overview Training Course
  - XenApp on Azure Reference Architecture
  - www.citrixandmicrosoft.com
  - XenDesktop Free Trial
Biographies

John Savill
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John Savill is a Windows technical specialist, an 11-time MVP, and an MCSE for Private Cloud and Server Infrastructure 2012. He’s also ITIL certified and a CISSP. John is the author of the popular FAQ for Windows and a senior contributing editor to Windows IT Pro, as well as the author of Microsoft Virtualization Secrets (Wiley) and Mastering Hyper-V 2012 R2 with System Center and Azure (Wiley).

Sean Donahue
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Sean Donahue has spent the greater part of the past 20 years evangelizing and working across Citrix and Microsoft technologies. Sean has worked in Product and Alliance marketing for Citrix, RES Software, Microsoft and Softricity.