

10 Reasons Why Windows Server® 2012 R2 Upgrades Are Critical — And Why the Server You Choose Matters

How to take advantage of a decade's worth of technology advances today

Just about everyone has heard stories extolling the benefits of cloud computing and virtualization, the twin forces behind the transformation of the way companies of all shapes and sizes “do” computing. But to take part in this information revolution, it’s critical to have the right underpinnings. That means not only upgrading the decade-old Windows Server 2003 operating system software that still drives more than 12 million servers, but also upgrading the underlying hardware to ensure you realize all the benefits the software can deliver. The combination of Windows Server 2012 R2 and the latest Intel® Xeon®-based server hardware should be part of an IT strategy for companies and departments looking to modernize their IT infrastructure. This checklist will identify 10 of the top issues driving the need for server OS software and hardware upgrades.



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1. Plug security holes

An issue brought about by the end of support for Windows Server 2003 is that Microsoft no longer provides patches for security issues that continue to crop up. For companies that must comply with regulations such as HIPAA, Sarbanes-Oxley (SOX), and PCI, that issue alone may make Windows Server 2003 an unacceptable platform. Businesses subject to regulations may face stiff penalties and huge fines. In addition, businesses that accept credit cards may lose their merchant privileges, if they continue to run on an unsupported operating system. Windows Server 2012 R2, on the other hand, leverages the modern security hardware features of Intel Xeon processors, such as those used in Lenovo servers, to provide fast hardware-based encryption to keep systems and data secure. Older servers are more vulnerable to malicious attacks. Your data and your intellectual property would be at risk. Knowing that data resides on the most secure server possible will help everyone sleep better at night while keeping hackers — and compliance auditors — at bay.

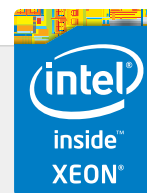
2. Survive the data deluge

As the amount of new data users create grows exponentially, it is increasingly difficult to efficiently store the barrage of images, videos, sound files, presentations and documents. One effective method for reducing expenditures for new storage is employing data de-duplication technology to reduce the amount of redundant data you need to back up, archive or simply move from point A to point B. Users can attain these benefits with a simple upgrade, thanks to the de-duplication features found in Windows Server 2012 R2. Another issue is that critical data may be at risk. FEMA estimates that up to 70% of small to medium businesses that experience catastrophic data loss will fail within 12 months.¹

3. Broad application and platform support

With the influx of new database technologies and applications to support trends such as Big Data and predictive analytics, organizations need the latest hardware and software just to be competitive. Many of the best Windows databases and server applications didn't even exist until after support for Windows Server 2003 ended. **The latest software is not being rigorously tested on decade-old hardware and certainly isn't supported on it.** Applications may not be recoverable if the OS fails. Users will not have access to the tools they need to work, which could paralyze business operations. Upgrading hardware and software may be a prerequisite for the new applications users demand.

¹ Minard, Derik. "Small Business Continuity Planning Integrated with Fire Department Pre-Plans." (n.d.): 6. U.S. Fire Administration. FEMA. Web.



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4. Reduce operating expenditures

It costs a bundle to keep IT systems running. Maintenance and energy costs alone put pressure on IT budgets, but with server sprawl, where new servers were deployed for each new workload, it's no wonder that on average, companies spend nearly three-quarters of their IT budget on operating expenses. By migrating to new Intel Xeon-based servers running Windows Server 2012 R2, companies can quickly achieve dramatic savings in both the number of servers and the amount of power they draw. **Servers that are more than 4 years old deliver only 4% of the performance of today's best servers while using 35% more energy.** Clearly, by upgrading servers, companies can free up substantial portions of the IT budget and dedicate it to more strategic work that yields competitive advantage.

5. Get cloud-ready

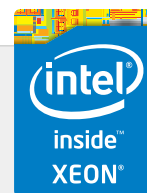
Organizations that aren't already deploying virtual servers and thinking about private or hybrid clouds for workloads from databases to line of business (LOB) applications, will no doubt be considering these options soon. The benefits are clear, including capital cost and manpower savings as well as reduced data center footprint, which saves valuable floor space and cuts energy costs. Outdated server hardware with 10-year-old operating systems were not designed to support the cloud. **The need to match higher performance processors with large memory capacity, high speed and low latency storage, and faster network bandwidth are crucial for a virtualized environment that is the very foundation of a cloud ready infrastructure.**

6. Improved performance

The demand on servers has been increasing substantially due to broader organizational use of the data and applications required by end users. Lenovo servers running Intel Xeon E5 processors and Microsoft Windows Server 2012 R2 can increase performance up to 5x when compared to platforms from 2007 running Windows Server 2003. This provides the performance and responsiveness your organization needs. Improved memory performance and capacity help drive performance improvements in new servers, as do larger cache sizes and more system memory. The result is improved service levels when multiple employees are using a single application, when a single server supports multiple virtual machines, or when workers in branch offices and other remote locations need to access critical information.

7. Support mobility and remote access

The way we work is rapidly changing. More and more employees work from home, from a remote office, or from the road. Yet these users still need access to applications and data that reside on the servers in the data center. By upgrading to new servers running Windows Server 2012 R2, businesses can take advantage of expanded



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device support and streamlined virtual desktop configuration and management. That simplifies the job of enabling devices such as tablets and smartphones to access business critical applications and data from wherever users may be. **New servers that are designed to handle the high volume of transactions common in highly mobile environments are a must.**

8. Solid reliability for a 24/7 world

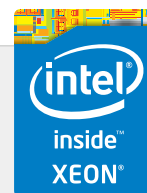
Today there's no excuse for downtime, which can drive away customers and cause widespread internal problems. That makes reliability a key requirement for server systems. Reliability is tough to deliver for older servers because mainstream support from Microsoft for Windows Server 2003 ended more than 4 years ago. On the other hand, **Windows Server 2012 R2 supports near-instant recovery from disasters** through Hyper-V Replica, a low-cost, out-of-the-box solution for business continuity that will keep systems running and the executive suite happy.

9. Agility, scalability and growth

Nothing stays the same and that includes business requirements and IT resources needed to support them. Whether IT demand fluctuations are seasonal, or simply the result of strong business growth, companies need to easily scale and be able to manage a growing number of servers both physical and virtual. **Windows Server 2012 R2 allows you to add both virtual and physical servers to your infrastructure while utilizing a single Server Manager instance to administer changing workloads.** New server hardware with error-correcting ECC memory enables the use of ever-faster and larger memory pools to support growth without fear of failure due to memory errors.

10. Increased Productivity

One thing that hasn't changed since the introduction of Windows Server 2003 is the IT mantra: "Do more with less." Economic challenges of the past several years have further pressured IT budgets to the point where current infrastructure is often not only aging, but actually holding companies back from their full potential. **If IT is to enable innovation in business processes while also cutting costs, the status quo must change.** Enterprises must employ the latest, most cost-effective and efficient tools so IT can deploy new solutions that deliver business value with demonstrable ROI for every IT dollar spent. This includes building on Lenovo servers with some of the industry's highest validated performance, the open system management interfaces that fit into your environment, components that can withstand the rigors of 24/7 uptime and redundant subsystems throughout.



Summary

The benefits of migrating to Windows Server 2012 R2 with the latest server technology are many, including: **increased efficiency through virtualization; improved energy efficiency from reduced server sprawl; increased productivity from more powerful and effective servers; more reliability from enhanced security and failover; and better storage utilization from de-duplication**, to name just a few. However, to achieve these benefits and more, the underlying hardware must be capable of fully supporting Windows Server 2012 R2 with the speed, stability and features required to execute the tasks and programs that ultimately deliver value to users and IT alike. Only by upgrading aging and often unsupported server hardware to the latest Intel Xeon-based servers from Lenovo will you be able to reap the full rewards of Windows Server 2012 R2.

Source

- Intel. *Modernizing the Midsized Business IT Infrastructure*. Intel, 2013. June 2013.

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