

Insight CDCT Whitepaper: A Navigation Guide for Windows/SQL Server 2008 EOS

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Abstract/Introduction

As you may know, Microsoft® announced the End of Support (EOS) dates for SQL Server® and Windows Server® 2008 versions.

- SQL Server 2008 and 2008 R2 extended support ended on July 9, 2019.
- Windows Server 2008 and 2008 R2 extended support will end on January 14, 2020.

What does EOS mean for you?

SQL Server and Windows Server 2008 EOS means Microsoft will no longer make product improvements, accept warranty claims, or provide security or non-security patches. Extended support is only available for a limited time, at a steep price. You then face a decision: How will you respond to this new normal?

Knowing where you are now and what conditions and risks are present is the best way to begin making important decisions. In this navigation guide, we'll help you do just that: Assess your current state, outline your options, and start plotting a path forward.

Problem Statement

Your current state

If you're reading this guide, you likely have instances of Windows Server 2008 and/or SQL Server 2008 in your IT environment. While these products were great for their time and have probably served your organization well during the last decade or so, much has changed.

- Automation is now delivering increased efficiency with fewer errors, with 41% of IT leaders expecting it to have a sizable impact on their business.¹
- Artificial intelligence, big data, and machine learning have arrived. Already, 50% of IT decision-makers believe that these models have been critical to their innovation initiatives.²
- In fact, 58% of respondents to a survey performed in early 2019 had adopted a multicloud strategy.³

That's not all. Data growth is exponential, with estimates of worldwide data creation in the hundreds of zettabytes within the next several years. Users and customers expect high-quality services delivered reliably around the clock, in any time zone. Not to mention, cyberthreats are lurking in every corner, finding gaps and vulnerabilities to prey upon.

As we examine the risks and options at hand, keep these points in mind. While it's possible to carry on business as usual without addressing key changes in IT, it will likely put your organization at risk of falling behind in terms of innovation, being exposed to security threats, or simply becoming out of touch with the market and losing your competitive edge. Taking a proactive stance and embracing change, new technologies, and approaches puts you on the offense; ready to thrive.

Implications of EOS

The onset of EOS means the end of regular security and performance updates for Windows Server 2008 and SQL Server 2008. Microsoft will only continue to offer bug fixes and security updates through extended support.

Running on outdated and unsupported platforms:

- Increases your risk profile and potential vectors of cyberattacks
- Exposes your organization to inherent platform and performance issues
- Introduces compliance concerns for organizations operating within regulated industries (which is the majority of companies when considering standards like the EU General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA))

If you have Windows/SQL Server 2008, it's also likely that you're relying on aging hardware that may or may not be meeting the needs of your business. Either way, the adage of "if it ain't broke, don't fix it" is perhaps worth

abandoning in this case. You can now take advantage of options like servers with more memory and speed, memory systems specifically tuned to run SQL more efficiently, flash storage, and new Field Programmable Gate Arrays (FPGAs). Upgrading can have an immense impact on your business and its ability to drive value faster.

Background

What lies beyond? You have three options to choose from as you move past EOS.

1. Upgrade applications and infrastructure to the latest version of SQL Server and Windows Server.

Organizations looking to keep applications and data on-premises and on familiar platforms can upgrade to Microsoft's newer versions: SQL Server 2017 and 2019; and Windows Server 2016 and 2019. All of these options deliver better performance, efficiency, and security features than their 2008 counterparts, though will perform their best on updated infrastructure. Upgrading SQL on old hardware is not recommended.

2. Get on-premises Extended Security Updates for a fee.

One way to continue running Windows Server and/or SQL Server 2008 is with Extended Security Updates, available from Microsoft for a fee. There are a number of provisions, however.

- a. Requires licenses with active Software Assurance under an Enterprise Agreement (EA), Enterprise Subscription Agreement, Server & Cloud Enrollment (SCE), Enrollment for Education Solutions (EES), or Subscription. (See more details here.)
- b. Extended Security Updates will only be available for purchase for three years (36 months) after EOS date.
- c. Payment must be made up front for the first year.
- d. If you sign up for the service in the middle of a year, you have to pay for the full year.
- e. If you decide not to sign up for a year, but then sign up for the next year — you'll have to pay for both years.

And, perhaps the most important factor: cost. Extended Security Updates pricing is 75% (annually) of the EA or SCE license price of the latest version of SQL Server or Windows Server. This, alone, may make this option prohibitive for many organizations.



3. Update that aging hardware.

Typically, an update to the SQL Server and/or Windows Server application will be accompanied by an update to infrastructure. Common platforms for mission-critical applications can include converged systems and hyperconverged solutions that leverage Cisco® innovations. These kinds of solutions can be instrumental in modernizing the data center and delivering unprecedented agility, scalability, and cost efficiency.

Solutions include:

- **Cisco and NetApp® FlexPod®**

Converged infrastructure, such as FlexPod, combines Cisco compute and integrated networking with external storage from NetApp. This modern platform offers all-flash storage and networking that can integrate into a software-defined network, as well as extended memory and updated compute in the Cisco UCS® platform.



Converged infrastructure has long been the gold standard for running mission-critical workloads such as SQL Server. FlexPod benefits include greater scalability, faster SQL server response times, and quicker provisioning with Cisco ACI.

- **Cisco HyperFlex™ HX-Series**

Hyperconverged infrastructures, like HyperFlex from Cisco, is the next generation of integrated systems and one of the fastest growing areas of the market. This growth is for good reason. HyperFlex combines Cisco Fabric Computing (integrated network and compute) with storage into a single, modular solution.



HyperFlex is much simpler to manage since it is a single, modular solution. HyperFlex also scales linearly: You can simply add more modules to grow your environment, which is much like consuming cloud. Finally, with the latest versions of HyperFlex, including all NVMe flash storage, HyperFlex provides superior performance more than suitable for the most demanding and dense SQL Server solutions.



- **Microsoft Azure® Stack**

To gain the cost-effectiveness of traditional hardware with the agility of a cloud platform, consider migrating to a newer, hybrid cloud computing software solution. Microsoft® Azure Stack is based on server technologies with internal storage, which runs on your existing hardware or hosted infrastructure. Requiring no new license purchase, Azure Stack lets you take advantage of extended support.



Azure Stack also allows you to run Azure services on-premises, eliminating the complicated process of determining what other applications in your environment are using the services. Careful consideration must be taken when moving components of a data center environment, like SQL Server, to a public cloud location. It's important to understand the impact (like latency) on other application services.

The value of Cisco-based converged and hyperconverged solutions

Using Cisco-based converged and/or hyperconverged solutions provide several benefits:

- Increased consolidation through reduction of physical server count.
 - Expect roughly a 4:1 consolidation, with a 75% reduction in physical servers.
- Better performance due to new storage (flash) and server technologies.
- Simplified management.
- Better SLAs since new integrated systems typically have both higher and more consistent performance than shared systems such as cloud.

4. Migrate workloads to Azure for extended support.

Modernize your environment and save on costs compared with other options by migrating workloads to Azure virtual machines (IaaS). Microsoft will be offering Extended Security Updates for SQL Server and Windows Server 2008 with Azure for three years after EOS for no additional charges above the cost of running the virtual machine.

There are several ways to leverage Azure for your SQL workloads. The two most common are:

- 1) Simply migrate to Azure IaaS. This is generally a more expensive solution.
- 2) Move to a PaaS (Platform as a Service) database as a service. This is more cost effective and removes much of the management burden. However, it does require some conversion during a migration.

What does moving to Azure actually cost?

- Every scenario requires an assessment of the workloads to be moved.
- Workloads can be optimized in Azure to address business needs rather than being dictated by supporting hardware.
- Teams with expertise in facilitating this type of migration offer pricing estimation based on specific business and operational needs.

Solution

Which option is right for your organization? It depends. You'll need to determine budget and costs. Application dependencies should be evaluated prior to any migration planning. On a strategic level, your organization will want to figure out whether you'd rather "kick the can" and keep running 2008 versions for as long as possible, or begin transitioning to modern platforms now.

When we work with clients who are facing EOS-related decisions, we ask questions such as:

- How many physical servers do you have?
- How many instances of SQL/Windows Server do you have?
- What is your cloud strategy and how have you executed it thus far?
- Is your current environment delivering what the business needs? If not, how is it lacking?
- Do you have any preferences toward certain hardware vendors (e.g. NetApp, Cisco, etc.)?

To help answer a couple of these questions, we use a proprietary data collection engine called SnapStart to gather and analyze critical information

about an IT estate in a matter of days or weeks, as opposed to months or even years.

We also use Microsoft tools, Database Migration Assistant (DMA), and Messaging Application Programming Interface (MAPI). Our consultants apply proven methodology and field experience to help clients realistically define and align IT goals with those of the business.

Clients also appreciate using the labs at our Research & Innovation Hubs to conduct proof of concepts across various converged and hyperconverged platforms. Our on-site lab teams can discuss business requirements and goals, provide rough cost comparisons, and let you test different architectures you may be considering.

The best way to make progress is one step at a time. First step: Ask us about our [SQL Server 2008 and Windows Server 2008 End of Support Assessment](#). It's a low-risk, high-impact assessment that will help you make the transition and address key questions with customized guidance from experts.

Details of the assessment:

- Duration: 2–5 weeks
- Choose from two assessment types based on number of servers, database instances, and overall company size/complexity.
- Each assessment consists of two phases:
 1. Review requirements and infrastructure, develop recommendations, and provide estimates.
 2. Test findings, develop a go-live plan, and perform upgrades.

Key benefits:

- Reduce costs and risks
- Get advanced insights into your environment
- Drive modernization
- Better define business and IT needs and objectives
- Develop a customized migration plan

The right infrastructure makes all the difference

Insight Cloud + Data Center Transformation (CDCT) can help you determine what infrastructure may need to be updated to best support the business, and what solutions might be the best fit from performance, cost, and operational perspectives.

Cisco-based converged and hyperconverged solutions offer the scalability, performance, and agility to support today's SQL environments.

Conclusion

Take the next step with Insight

Insight has extensive experience helping organizations navigate and make transformational change. Let Insight help you assess your current state, outline your options, and start plotting a path forward.

Insight's validated, deep expertise with Cisco includes:

- **Five Master Specializations**
 - Master in Networking (Cisco's newest specialization)
 - Master in Service Provider Technology
 - Master in Data Center & Hybrid Cloud
 - Master in Security
 - Master in Collaboration
- **Gold level partner**
- **Cloud & Managed Services Provider (CMSP)**

Insight's expertise, coupled with Cisco's innovations, provide you with a foundation for success.

About Insight

Today, every business is a technology business. Insight Enterprises Inc. empowers organizations of all sizes with Insight Intelligent Technology Solutions™ and services to maximize the business value of IT. As a Fortune 500-ranked global provider of Digital Innovation, Cloud + Data Center Transformation, Connected Workforce, and Supply Chain Optimization solutions and services, we help clients successfully manage their IT today while transforming for tomorrow. From IT strategy and design to implementation and management, our 7,400+ employees help clients innovate and optimize their operations to run business smarter. Discover more at www.insightCDCT.com.



References

1. Spiceworks. (2018). The 2019 State of IT Survey: Future Workplace Tech.
2. Insight. (2019). Insight Intelligent Technology Index.
3. Kentik. (2019, Jan. 24). AWS Cloud Adoption, Visibility & Management.

Image sources

1. <https://flexpod.com/>
2. <https://www.cisco.com/c/en/us/products/hyperconverged-infrastructure/hyperflex-hx-series/index.html>
3. <https://docs.microsoft.com/en-us/azure-stack/user/azure-stack-solution-hybrid-cloud?view=azs-1908>