Data center over 5 years old? Here are 7 benefits of an upgrade

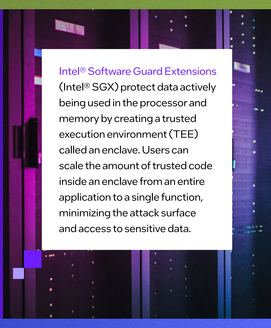
Given the rapid pace of innovation, there's never a bad time to consider upgrades to your data center. The seismic changes of the past three years—generative AI, major enterprise software upgrades, and the cloudification of everything—are making major overhauls a necessity. Make sure you're planning your next refresh to succeed across the latest data center priorities.

1. Lower overall IT costs

It may sound counter intuitive, but the financial benefits of a data center upgrade can far outweigh the cost of a new infrastructure through performance gains and improvements in energy efficiency.[1] Modern, cloud-native development, IT administration, and security management tools that are slow, expensive, and sometimes impossible on legacy systems, become time-saving, cost-reducing revolutions on newer hardware. Productivity boosts aren't limited to IT. Every user who hits your servers will see faster response times and more seamless experiences.

2. Protect data during processing

Traditional security measures protect data while it's in storage and in motion. The latest confidential computing technologies create secure enclaves that isolate applications and virtual machines, protecting your data while it's in use. With confidential computing, data remains secure and private even when in use by downstream applications, opening the door to new opportunities for collaboration and insight — even with regulated and high-value data.



Intel® Software Guard Extensions (Intel® SGX) protect data actively being used in the processor and memory by creating a trusted execution environment (TEE) called an enclave. Users can scale the amount of trusted code inside an enclave from an entire application to a single function, minimizing the attack surface and access to sensitive data.

18% - 69%

Intel® Xeon® 6 processors offer up to 18% - 69% lower TCO on a range of workloads, including AI image classification, generative AI (LLM), encrypted web serving, data services, and high-performance computing, compared to the competition.[2]

3. Continuously optimize workload placement and infrastructure costs

The latest IT infrastructure offers new levels of flexibility, allowing you to move, shift, launch, and shut down architectures, VMs, containers, and services on demand. When coupled with intelligent FinOps strategies, upgraded infrastructure can balance workloads with computing resources, maximizing performance while optimizing costs.

4. Support scaling AI workloads cost effectively

The rapid rise of generative AI, and now agentic AI, over the last couple of years have created game-changing opportunities for companies to enhance productivity, efficiency and innovation. Enabling AI-driven workloads is no longer a nice-to-have, but a competitive necessity.

4x

Intel® Xeon® 6 processors with performance cores (P-cores) run batched Llama3-8B inference (int8) 4x faster than AMD EPYC 9654[3], meaning a data center with Intel® processors can support many AI workloads without GPUs.

5. Give enterprise application upgrades the resources they need

SAP HANA, Windows Server 2022, SQL Server 2022 and other major enterprise applications have gone through major upgrades that demand more computing resources than legacy data centers can deliver. Refreshed data centers bring significant improvements like high-bandwidth memory that can hold databases in memory and more, faster CPU cores that speed transaction and response times.

6. Boost productivity from developer teams to front-line staff

A data center upgrade reduces response times for virtually every service from locally hosted applications to databases, CRMs, and ERPs. If you're seeing a general declining in productivity or seeing technology-related frustrations, it's probably time for a technology refresh.

Intel Xeon 6 processors with efficient cores (E-cores) can help consolidate racks up to 3:1 compared to 5-year-old infrastructure.[4] Over four years, this can save 80k MWh of fleet energy and reduce CO2 emissions by 34k metric tons.[5]

7. Deliver more performance with less energy

Many businesses have set ambitious goals for reducing energy use and CO2 emissions. Newer data centers deliver more performance per watt in drastically smaller footprints, efficiencies that can cascade throughout your organization.

See how the latest Intel® Xeon® processors deliver more performance than ever before.

Visit intel.com/datacenter

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[1] See intel.com/processorclaims: Intel® Xeon® 6, 5th Gen Intel® Xeon®, and 4th Gen Intel® Xeon®. Results may vary.
[2] See 9T9, 9T8, 9T7 at intel.com/processorclaims: Intel Xeon 6. Results may vary. Test by Intel as of July 2024.
[3] See 9A7 at intel.com/processorclaims: Intel® Xeon® 6. Results may vary. Test by Intel as of 07/10/24
[4] See 7T2 at intel.com/processorclaims: Intel® Xeon® 6. Your costs and results may vary. Test by Intel as of 04/16/24.
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