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High-Performance Secure Cloud Storage at 80% Lower Cost[1] with Intel® Crypto Acceleration

Hardware-accelerated encryption in 3rd Gen Intel® Xeon® Scalable processors helps Wasabi deliver simple, predictable, and affordable hot cloud storage

wasabi
hot cloud storage

Enterprises are pursuing cloudification to increase their competitiveness and productivity and to help make their businesses more resilient against global challenges like the COVID-19 pandemic. However, security remains a primary hurdle to unlocking the full value of what cloud-based storage, applications, and services have to offer. Up to 83 percent of businesses don't encrypt all their sensitive data in the cloud,[2] leaving their IP vulnerable to breach and preventing them from actualizing the cloud's flexibility and agility to drive their insights and delivery of new services.

> *"Our value to customers is price, performance, and protection. Our ability to deliver on those promises is made on the components we choose, and Intel helps with that."*
>
> —Jim Donovan, SVP of Product at Wasabi Technologies

Challenge: Changing the mindset of cloud storage

Not too long ago, businesses and IT departments were hesitant to move to the cloud for security reasons. Today, archiving or backing up data to the cloud is considered a best practice, especially for mitigating cybersecurity risks such as ransomware attacks. Unfortunately, the amount of data that companies need to store is skyrocketing, as is the cost of storing that data. First-generation cloud providers not only charge a high price for each terabyte stored, but they also impose additional costs when customers access their data. Wasabi Technologies is out to change the status quo by offering fast, secure, next-generation cloud storage that is infinitely affordable.

Solution: Wasabi's bottomless cloud enabled by Intel® Crypto Acceleration

Wasabi is revolutionizing the economics of data storage by pioneering the concept of the bottomless cloud. Simply put, the bottomless cloud is the ability to store everything in a cost-effective way via a single storage tier that treats all data as hot data—data that needs to be readily or frequently accessed. One of the ways Wasabi accomplishes this is with 3rd Gen Intel® Xeon® Scalable processors and hardware-enabled Intel Crypto Acceleration to help eliminate the performance overhead of data encryption. Customers benefit from a simple, predictable, highly durable cloud storage service with full end-to-end encryption, all at an unbeatable price. "Our value to customers is price, performance, and protection. Our ability to deliver on those promises is made on the components we choose, and Intel helps with that," says Jim Donovan, SVP of Product at Wasabi Technologies.
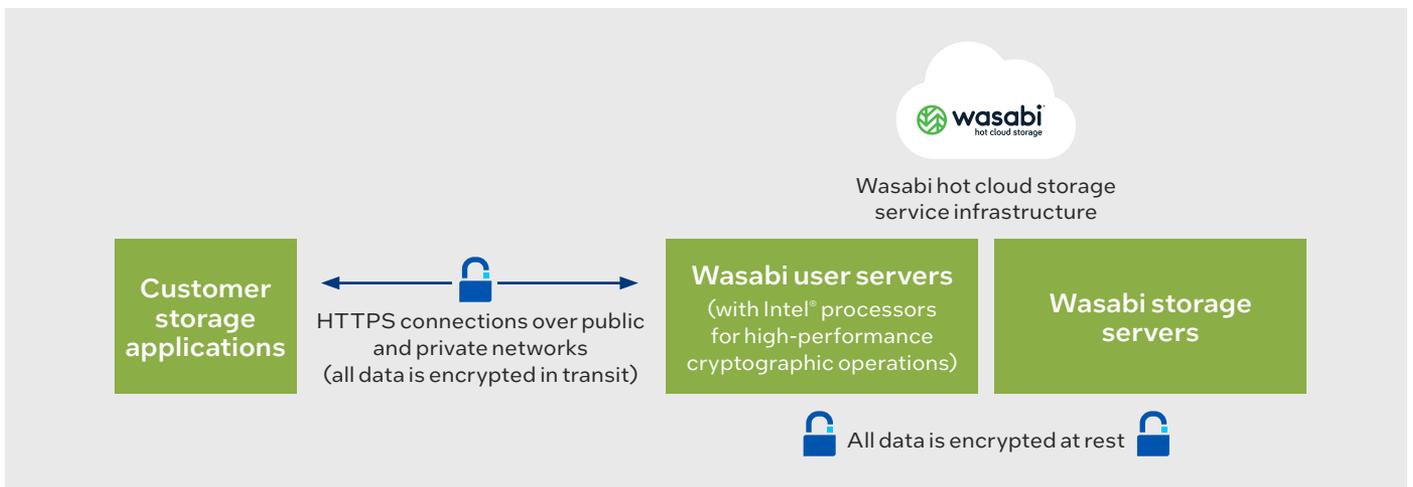
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Wasabi cloud storage: Key benefits enabled by Intel® Xeon® Scalable processors

Full encryption for data at rest and in flight	80% lower cost vs. Amazon S3[1]	11 nines of data durability	Multicloud interoperability	Framework friendly
Optimized by Intel® Crypto Acceleration	With no charges for data egress or API calls	With support for immutability for regulated industries	Compatible with AWS, Azure, and Google Cloud	Over 400 software partner optimizations available

How it works

Wasabi deploys 3rd Gen Intel Xeon Scalable processors in the infrastructure that handles security. Encryption-intensive workloads, such as SSL web serving, 5G infrastructure, VPNs, and firewalls, consume a significant amount of computational resources, which data center operators mitigate using discrete crypto accelerators and PCIe add-in cards. Intel® processors with Intel Crypto Acceleration reduce the performance impact of highly performant encryption while maintaining maximum connections per second to satisfy service level agreements (SLAs).

Figure 1: Wasabi user servers enabled by 3rd Gen Intel® Xeon® Scalable processors deliver highly performant encryption for Wasabi storage servers.

Intel Crypto Acceleration also helps eliminate the need for specialized hardware or add-in cards that inflate costs, power consumption, and PCIe resources. These ingredients contribute to a streamlined cloud storage service that empowers Wasabi customers to benefit from extremely low costs, high durability, and millisecond-fast retrieval times. Unlike first-generation cloud service providers (CSPs), Wasabi does not charge customers for data egress or API calls between other platforms or clouds. This results in a potential cost reduction of up to 80 percent when comparing Wasabi to AWS S3.[1]
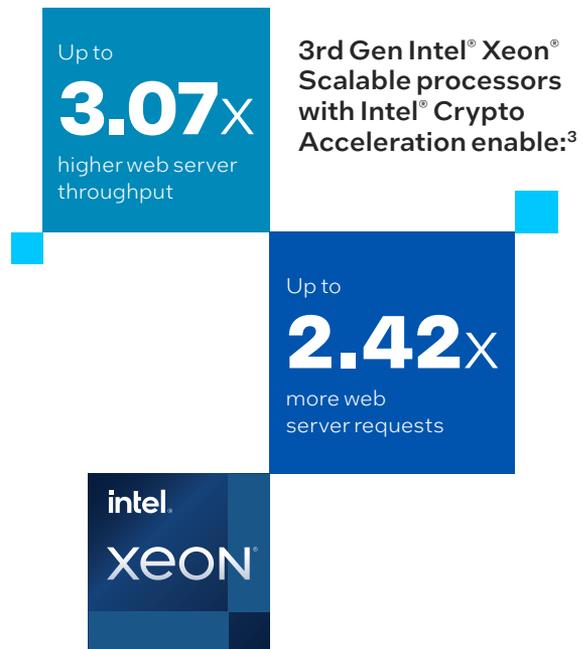
New instructions for cost-efficient cryptography

Introduced with 3rd Gen Intel Xeon Scalable processors, Intel Crypto Acceleration adds new instructions for Intel® Advanced Vector Extensions 512 (Intel® AVX-512) that drive faster cryptographic algorithms and support larger key sizes without impacting server performance. These new instructions provide up to a 3.07x performance improvement for bulk web server throughput and up to a 2.42x performance improvement for web server requests.[3] For Wasabi customers, these improvements translate into dramatic cost reductions while encrypting all data at rest and in flight.

Future-ready for next-generation platforms

Wasabi's codebase is built to take advantage of multiple security capabilities, including Intel® QuickAssist Technology (Intel® QAT), which further accelerates and compresses cryptographic workloads. Intel QAT is currently only supported with a stand-alone PCIe card but is one of the many purpose-built accelerators integrated into 4th Gen Intel® Xeon® Scalable processors. Applications using high-performance accelerators enabled by Intel QAT will see greatly reduced CPU utilization and greatly increased performance for encryption, secure client tunnels, and/or secure storage compression.

"Cutting-edge technology *is* our competitive advantage," Donovan comments. "The technology choices we make today are just as critical as the ones we made when we first launched Wasabi five years ago. We must keep striving to be better, faster, more cost-efficient, and we can't sit still." When Intel QAT becomes integrated into future processor generations, Wasabi expects even higher performance and potential cost savings that will benefit customers directly.

Up to
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3rd Gen Intel® Xeon® Scalable processors with Intel® Crypto Acceleration enable:[3]

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Compared to the same platform with Intel Crypto Acceleration turned off. For workloads and configurations, visit intel.com/PerformanceIndex. Results may vary.

Competitive cloud benefits with advanced features

With 3rd Gen Intel Xeon Scalable processors, the Wasabi cloud harnesses years of architecture innovation and advanced capabilities that help drive customer success. High performance and embedded security capabilities enable Wasabi to offer unique and competitive services such as single-tier pricing. Wasabi's transparent fee schedule makes it easier for customers to choose the right offering for their workloads while avoiding unexpected service charges.

Data as a business's most valuable asset

The underlying idea that drives the philosophy of the bottomless cloud is about framing data as a business's most valuable asset. To these ends, Wasabi removes as many hurdles as possible for businesses accessing their data. This practice includes treating all data stored in the Wasabi cloud as hot data so that it's accessible in milliseconds. When businesses store data in the Wasabi cloud, they can retrieve it at a moment's notice to fuel their business intelligence and analytics or to respond to market conditions.

Immediate consistency from anywhere

Wasabi supports immediate consistency, which means that data can be read back from anywhere in the world as soon as it's ingested into the Wasabi cloud. Businesses can transfer their data to the cloud and start processing it right away for new services creation, delivery, or analytics. Many other CSPs can only offer eventual consistency for new data uploads, resulting in delays for data access that can slow down the pace of innovation and insight.
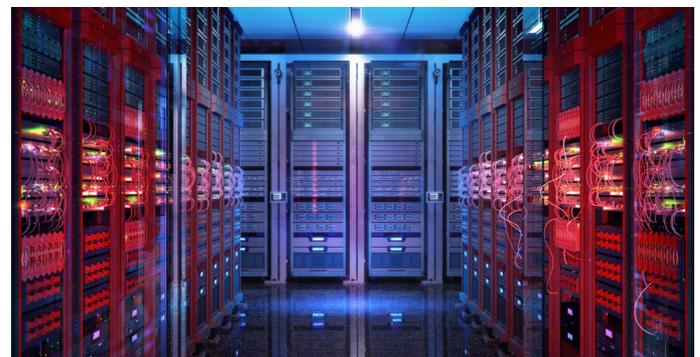
Wasabi cloud storage with 3rd Gen Intel® Xeon® Scalable processors

Data archiving, backup, and recovery

Content delivery for media and apps

Video storage for digital safety and security

Protection against ransomware

New DevOps projects and innovations

AI analytics data pipelines

Upstreaming data from IoT devices

Hundreds of partners for ease of use

Enterprises can use Wasabi alongside other CSP services or independent software solutions. Wasabi's S3-compatible API seamlessly integrates with other clouds and makes it easy to migrate data to specialized instances as part of a complete data pipeline. Wasabi is also proactively growing a list of 400+ technology alliance partnerships, which includes makers of software applications or hardware appliances that send data to the public cloud. These alliances help Wasabi provide validated, documented interoperability for hundreds of popular solutions already on the market today.

Multiple generations of Intel® hardware

Since Wasabi's inception in 2017, Intel processors have been at the center of its cloud solution. Its general compute and Kubernetes cloud engines rely on multiple generations of Intel Xeon Scalable processors for performance and security. With Wasabi, customers get access to the best of what Intel has to offer, including the latest innovations in cryptography to help protect their business assets. All infrastructure is managed and maintained by Wasabi, freeing customers to focus on business processes and staying ahead of the competition.

Conclusion: The cornerstone of a cloud strategy

Wasabi's unmatched efficiency and cost savings are major disruptions to the current cloud status quo. Donovan says, "Wasabi is a key piece of an enterprise's total cloud solution. The fact that we're able to offer high-performance storage with built-in security capabilities at a price that's lower than anyone else in the industry is why people choose us." Enterprises can free up budget resources for new projects with added peace of mind that their data is housed in a cost-effective, durable, highly performant encrypted solution and is instantly available to support innovation. Wasabi is a strong foundation that complements a hybrid or multicloud strategy for a complete solution.

About Wasabi Technologies

Wasabi provides simple, predictable, and affordable hot cloud storage for businesses all over the world. It enables organizations to store and instantly access an unlimited amount of data at one-fifth the price of the competition with no complex tiers or unpredictable egress fees. Trusted by tens of thousands of customers worldwide, Wasabi has been recognized as one of technology's fastest growing and most visionary companies.

wasabi.com

Learn more

Explore Wasabi cloud storage offerings with highly performant encryption at **wasabi.com**.

Learn more about 3rd Gen Intel Xeon Scalable processors at **intel.com/xeon**.

intel + **wasabi** hot cloud storage