

# The future of data security—today.

## Defend your data against quantum threats.

ThinkOn



### Your data is only one quantum computer away from being jeopardized.

Research suggests that a 20-million-qubit processor could break public-key cryptography algorithms. While a processor of this size is much larger than today's quantum processors, it is predicted that they will exist by 2030.

Secure your data now.

Forward-thinking threat groups steal encrypted data today with plans to crack it later; the targeted data type will still be valuable when technology catches up.

### Secure, long-term data storage combining homomorphic encryption and a true air gap—Powered by ThinkOn.

Encryption experts know—the rapid advance of quantum computing technology threatens the encryption you're currently using to protect your data.

#### Your data's future is quantum-safe in our cloud.

We all know that no matter how good perimeter security is, unencrypted data is never entirely secure, so it's important to keep data encrypted. But there are two problems with today's most common encryption types.

First, most encryption technology offers security only during transport and storage. Data needs to be in plaintext during computation, making it vulnerable—especially on the cloud or when shared. So how can you use data to gain insights while keeping it secure? How do you safely use advanced data analytics to develop new products and create engaging experiences for customers in the digital world?

Second, according to experts, the theft of encrypted data with intelligence longevity—such as biometric markers, social insurance numbers, and weapons and building designs—will increase, especially because new quantum technology will soon allow it to be decrypted.<sup>1</sup>

With ThinkOn's quantum-resistant fully homomorphic encryption (FHE), these two problems are no longer problems at all. FHE keeps your data safe at all times—even during compute. FHE means that your data can be used securely in encrypted analytics and machine learning.

**All the security your data needs—with the ease and functionality you want.**

Recent breakthroughs in mathematics and computer science allow FHE-encrypted computations to be performed directly on data without the need for access keys. ThinkOn's FHE uses groundbreaking, patented acceleration algorithms that speed up the required calculations—making FHE practical for enterprise-scale datasets.

FHE permits secure collaboration between non-related parties, long-term privacy regulatory alignment, and safe searching of unstructured data.

Our enterprise-scale FHE is delivered directly and seamlessly through ThinkOn's cloud computing platform. Customers can select the amount of reserved storage they desire with an unparalleled level of security and searchability.

### **Search cloud data securely and privately.**

Big workloads? No problem. Our world-class FHE performance makes fast work of data search and analytics. Generate insights from sensitive data without risking exposure.

### **Share your data on your terms.**

Enable secure data collaboration between non-related parties with FHE. Crisp, clear data for you and anyone you choose to share it with. Nothing but gibberish for everyone else.

### **Protect your data today—for tomorrow.**

Future-proof your data by establishing a zero-trust cloud environment to archive digital assets for the long term. Comply with international regulatory standards and reduce your risk of exposure.

## **A business and security imperative.**

Digital data archiving is accelerating and quantum computers are gaining computational power. These two realities mean that organizations need a storage solution that both protects their most valuable asset and gives them peace of mind when using data search and analytics capabilities.

There is no time to lose. FHE is imperative, especially for enterprises in highly regulated industries, governments, national security and healthcare organizations, research and design companies, telecommunications firms, and financial institutions.

Thanks to recent advances, deploying FHE for data storage, analytics, and indexing is easy and goes a long way to protect organizations against the quantum threat.

Future-proof your tomorrow—today.

**Reach out. We're here to help!**  
[www.thinkon.com](http://www.thinkon.com)

The ThinkOn logo features the word "ThinkOn" in a white, sans-serif font. The letter "O" is stylized with a white cloud-like shape above it. The logo is set against a dark blue background.

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We're here to help!**

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<sup>1</sup>Tung, Liam. ZDNet November 30, 2021. "Hackers could steal encrypted data now and crack it with quantum computers later, warn analysts." <https://www.zdnet.com/article/chinese-hackers-could-steal-data-now-and-crack-it-with-quantum-computers-later-warns-report/#:~:text=Recent%20studies%20suggest%20it%20would,could%20be%20built%20by%202030>