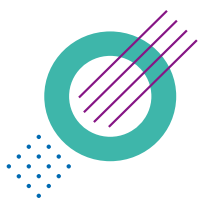


Enabling Post-Quantum Cryptographic Operations



**Quintessence
Labs**
Data Uncompromised



Cybersecurity In The Era Of Quantum Computing

Quantum computers will have impacts on cybersecurity that require us to change how data is protected. Many experts predict the total breakdown of all currently used key exchange systems within a decade, so it's critical to create a strategy that will enable quantum resistance soon enough to secure sensitive data before the era of quantum computing arrives.

With Garantir's GaraSign and QuintessenceLabs' qStream™ quantum random number generator (QRNG) appliance, the keys for all public-private key use cases are created with perfectly unpredictable random numbers, then secured in a non-exportable manner in hardware security modules (HSMs).

Superior Security With Truly Unpredictable Random Numbers

The strength of your encryption is heavily dependent on the quality of your cryptographic keys. If your cryptographic private keys are created with a pseudo-random number generator, it is much easier for attackers to break your cryptography through brute force. The qStream™ QRNG appliance provides encryption keys with full entropy. The keys are truly random.

World-Class Performance

The qStream™ QRNG appliance generates perfectly unpredictable random numbers and delivers them at the speeds needed for commercial applications, whether in on-premise, cloud, or hybrid environments. With a rate of 1 Gbit/s, the qStream™ QRNG appliance is the world's fastest commercial true random number generator. At the same time, GaraSign uses a client-side hashing architecture to keep cryptographic operations fast for all use cases, including code signing, SSH, document signing, S/MIME, TLS, and more.

Key Benefits of Garantir GaraSign & QuintessenceLabs qStream™ QRNG

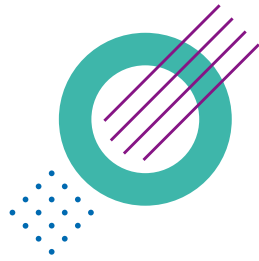
- **Quantum Resistance** - Private keys are generated with truly unpredictable random numbers, providing future-proof security for all public-private key uses
- **Private Key Security** - Signing clients are restricted to proxied key access, so private keys always remain secured in HSMs or key managers
- **Excellent Performance** - Cryptographic operations are accelerated with a client-side hashing architecture and parallelized code analysis
- **A Solution For All Use Cases** - End-users can efficiently access private keys to perform cryptographic operations of all stripes, including code signing, SSH, S/MIME, TLS, and more
- **Native Client Integrations** - With native client integrations to Apple, Microsoft, Android, GPG, Debian, RPM, and more, the joint solution is easily deployed in any enterprise environment

Secure & Highly Performant Access To All Private Keys

Just as using truly unpredictable random numbers is critical to the security of private key generation, enabling simple and efficient access to those private keys is essential for performance in any enterprise environment. With GaraSign, customers get the best of both worlds: superior security and unparalleled performance.

A Host Of Client Integrations





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QuintessenceLabs is the leader in quantum cybersecurity. Our products integrate quantum technology with high-value security, including the fastest true random number generator, and our crypto-agile key and policy manager, keeping organizations secure today and tomorrow. QuintessenceLabs is a pioneer in quantum key distribution, protecting information from the threat of quantum computers. The company is headquartered in Canberra, Australia.



Garantir is a cybersecurity company that provides advanced cryptographic solutions to the enterprise. The Garantir team has worked on the security needs of businesses of all sizes, from startups to Fortune 500 companies. At the core of Garantir's philosophy is the belief that securing business infrastructure and data should not hinder performance or interrupt day-to-day operations. With GaraSign, Garantir's flagship product, private keys remain secured at all times, without limiting the performance of cryptographic operations, including code signing, SSH, S/MIME, document signing, TLS, secure backup, and more.



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