



Qosmos (Entropy as a Service)

World's first Quantum Secured
Entropy as a Service (EaaS)



Truly Unique Keys



Highest order of Entropy



Highly Scalable

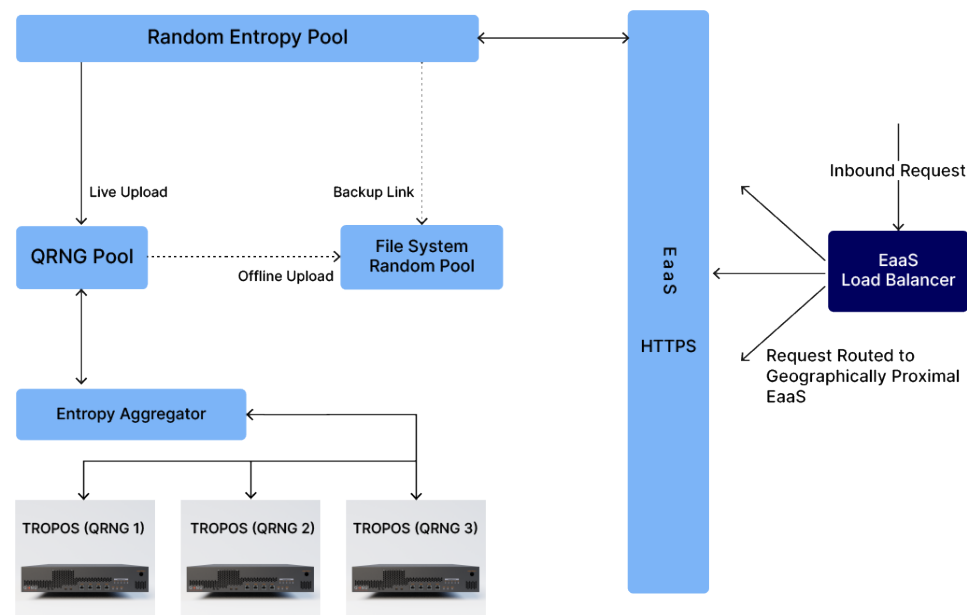
— INTRODUCTION

Every device especially in a hyper connected world of today, ought to communicate securely on the internet to minimise data exposure risks. Cryptography plays a critical role in ensuring the data remains secure when idle or in transit. However, cryptography fails when devices work with weak random numbers generated from low-entropy sources and/or use predictable keys.

The best source of true randomness is derived from unpredictable physical phenomena of quantum effects. To leverage it into individual devices is impractical because of their various limitations - form factor, hardware age, power consumption, interface availability and the like. To enable organizations to overcome these hurdles, QNu Labs created “QOSMOS”, - quantum-secure EaaS (Entropy as a service) that helps organizations, developers, and security teams to get access to quantum-sourced

random numbers for use with any application for cryptographic key generation.

— PRODUCT ARCHITECTURE



— PRODUCT FEATURES

LACK OF PATTERN

Qosmos service provides truly random numbers with a steady supply of information that cannot be predicted or exploited by hackers.

PROACTIVELY QUANTUM ENTROPY

The entropy from Qosmos is powered from quantum sources. Clients can be rest assured that the system cannot be attacked to degrade the entropy.

EASE OF INTEGRATION

API runtime provides a seamless integration i.e., a new module or feature of an application or hardware can be added or integrated without resulting in any errors or complications.

OPTION OF MULTIPLE DEPLOYMENTS

The entire solution can be hosted in the client's data centre or at cloud. By hosting Qosmos in their data center, clients looking for extra security can still benefit from Qosmos.

HIGH SCALABILITY

Qosmos is designed from ground up to be highly scalable. Qosmos is powered by multiple quantum sources to ensure redundancy. Thereby, even if one of the

quantum sources fails, clients are still assured of high quantum entropy from other connected devices.

MINIMUM LATENCY

Dynamic load balancer ensures that the Qosmos that is least occupied will cater to the requests. This ensures that the system will not suffer from latencies when receiving random numbers from Qosmos.

PROOF OF RANDOMNESS

The random data is subjected to battery of tests specified by standards like NIST/ENT and only after successful verification, the buffers are served. The client also has the facility to download the reports offline and verify.

— KEY BENEFITS

1. Highly unpredictable keys are provided to encrypt data by using random numbers generated by quantum phenomenon.
2. Provides high throughput with low latencies.
3. Low cost of upgradation makes it very cost effective.
4. Simplicity of integration, making it easy to deploy and use on the existing infrastructure.



— SPECIFICATIONS

COMPONENTS	DESCRIPTION
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ON-PREM

Operating System (OS)	Ubuntu 18 or higher ↑
Memory	16 GB RAM (Minimum for up to 100 connections)
Storage	100 GB
Ethernet Port	Gigabit or higher ↑

TROPOS (QRNG) - QUANTUM SOURCE FOR ON-PREMISE

Dedicated hardware for generating quantum random numbers, if needed.
Number of devices will depend on the throughput and redundancy needed.

QOSMOS HOSTED SERVICE

To use QNu's hosted service, the client needs activation license alone.
REST based APIs are available for easy Integration with client's code.



qnulabs.com

qnulabs.com/schedule-a-demo/



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