

Duantum Secured VPN World's first Quantum Secured VPN (Virtual Private Network)

___INTRODUCTION

Leveraging quantum-secure encryption algorithms, QNu Labs has developed a quantum-secured VPN for protection of data in transit. This communication technology secures data over un-trusted links from threats of today and tomorrow.

Organizations widely use VPN technology to secure communications over public networks providing link encryption for various use cases such as connecting remote sites, connecting branches to head office or securing links between primary and secondary data centres. VPN is also a primary technology offered to remote employees for Work From Home (WFH) setup. With the widespread use of VPN, it becomes extremely critical that the security and integrity is maintained for the quantum era. The quantum enabled VPN solution from QNu Labs thus is the next generation of technology that provides optimal security for all communication needs.

___ PRODUCT ARCHITECTURE





____PRODUCT FEATURES

QUANTUM ENHANCED ENCRYPTION

Communication is secured by the high-end security provided by quantum resistant cryptographic protocols.

HIGHLY UNPREDICTABLE AND STRONG KEYS

Strength of encryption is directly co-related to the strength of the keys. QNu's Q-VPN solution ensures that the keys used are completely unpredictable and extremely strong by leveraging the Tropos quantum random numbers generator (QRNG) which is tightly integrated into the solution.

COMPLETE FORWARD SECURITY

The Q-VPN session keys are regularly re-keyed using strong, unique keys generated from Tropos QRNG, that further enhances security.

HIGHLY SCALABLE

This solution is built for high scalability and robustness in implementation.

MULTIPLE AUTHENTICATION PROTOCOLS

Authentication for clients available with certificates, username/passwords or any centralized directories; t he Q-VPN solution allows for integration with all the industry standard authentication protocols.

SUPPORTS WORK FROM HOME

The solution offers quantum security for in-field personnel and work-from-home employees by deploying equally secure quantum resistant encryption algorithms that also secure the inter-office tunnels.

MINIMUM LATENCY

The solution ensures that the encryption induced latencies are virtually nonexistent.

___KEY BENEFITS

- 1. Advanced quantum resistant encryption algorithms that provide forward secrecy.
- 2. Highly unpredictable keys used to encrypt data by using random numbers generated from quantum phenomenon.
- 3. Easy to use, easy to implement.



___USE CASES

- 1. Securing data in-transit between any two locations
- 2. Securing ship to shore communication over un-trusted links
- 3. In campus quantum secure mobility (WiFi, LiFi, etc.)
- 4. Secured communication within buildings reducing risks associated with snooping or eavesdropping
- 5. Secured watch-tower communications (voice, video, etc.)

___ SPECIFICATIONS

COMPONENTS	DESCRIPTION
ON-PREM SERVER (VPN SERVER AND CLIENT)	
Operating System (OS)	Ubuntu 18 or higher ↑
Memory	16 GB RAM (Minimum for up to 25 users)
Storage	500 GB
Ethernet Port	Gigabit or higher ↑
TROPOS (QRNG)	
edicated hardware for generating quantum secure keys OR Qosmos	

QOSMOS SERVICE

Active License (if used, instead of Tropos)

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