

Q-Setu

(Quantum-Safe EncrypTion Unit)



C-DOT's Q-Setu is a Quantum-safe Network Encryptor, which supports future-proof Post Quantum Cryptography (PQC) as well as classical algorithms for encryption, authentication and key exchange mechanisms. Q-Setu can perform all the cryptographic operations independent of application level protocols, thus making it suitable and reliable for any application.

Atmanirbhar Bharat

Completely designed and developed in India

Quantum-Safe

Using latest NIST standardized ML-KEM and ML-DSA algorithms

Product Features

Quantum Security

- Support of Quantum-safe key exchange algorithms ML-KEM (FIPS-203) and digital signature algorithm ML-DSA (ML-DSA) in IPsec
- Support for integration with any QKD system for key loading through RS232 serial interface
- Support of Hybrid key exchange using combination of a classical and a Quantum-safe key exchange algorithm in IPsec

Classical Security

- Support of classical key exchange algorithms like DH, ECDH, etc.
- Support of standard encryption algorithms i.e. AES256
- Can also support custom or proprietary encryption algorithms
- Support of transport mode and tunnel mode of IPsec
- Support of MACsec based on IEEE 802.1AE standard

Physical Security

- Level 2 Physical security - Opaque packaging, tamper evident seals

Interfaces

- Two 10/100/1000 Base-T interfaces (one PLAIN and one CIPHER)
- One Out of band Management interface
- SD card interface
- One USB2.0 and One RS232 serial interface
- Telco interface for supporting Audio / Buzzer indication
- Mate interface for exchange of Health status for smooth and fast switchover

Dimension

- Compact sized : 8.66" x 6.12" x 1.72"

Power Supply

- Redundant Dual 12V DC
(220V AC to 12V DC adaptors shall be provided)

LED Indications

- For encryption; Power; Telco Alarm

Health Monitoring

- SNMPv3 client for health monitoring

Cooling/Thermal

- No forced air cooling required

Power Consumption

- Low power consumption < 14Watts

User Interface

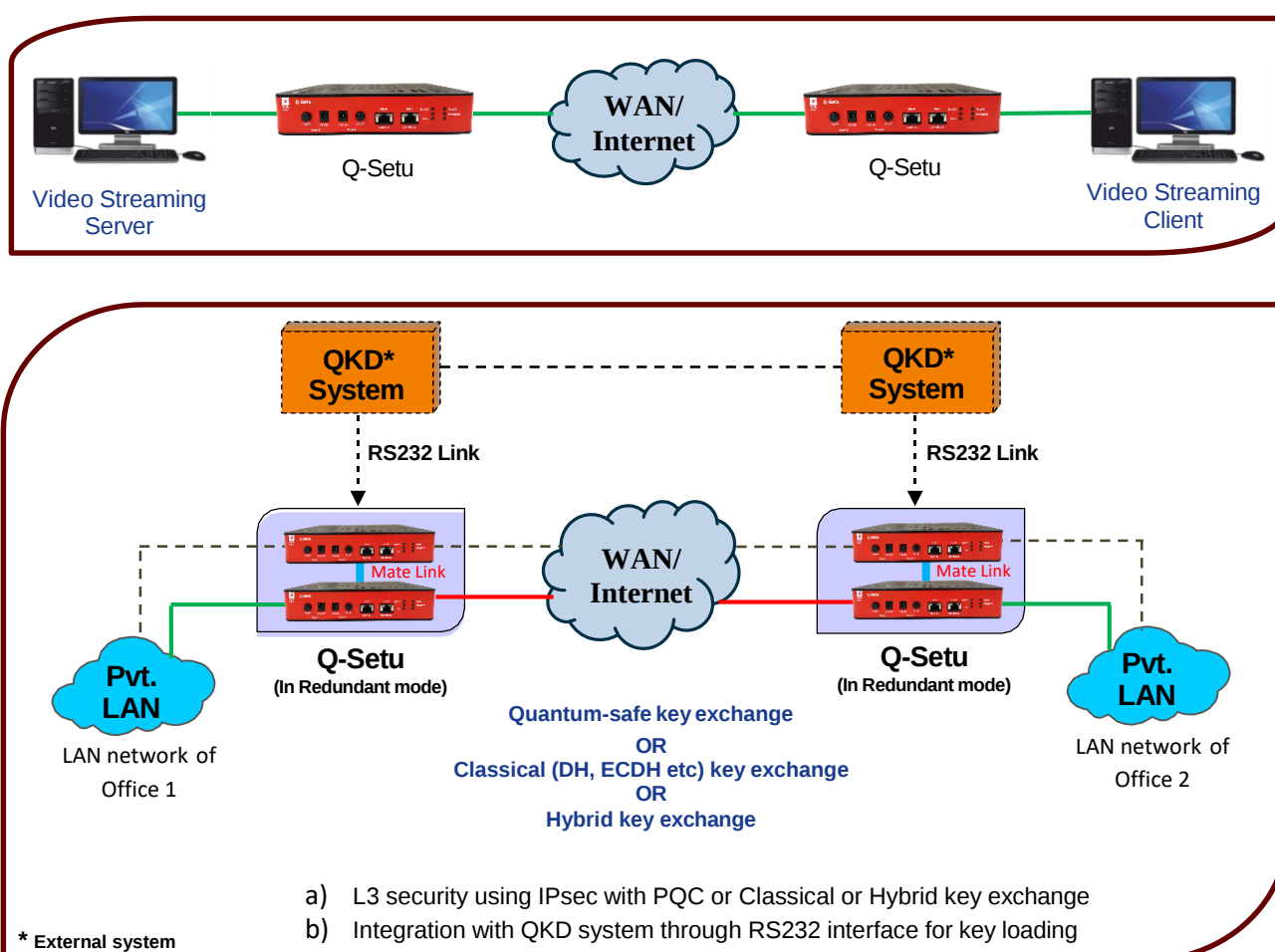
- CLI (Command Line Interface)

2-Factor User Authentication

- Password & Token-based (using iButton) authentication for system access

Use case scenarios

The following use case scenarios depict how two end-points of an application and LAN networks of two collaborating offices, can be connected and Quantum-secured using **Q-Setu** over WAN or Internet -



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