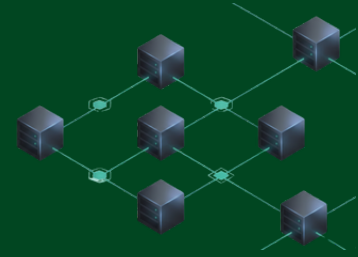




Q-Courier

Designed Beyond Today's Quantum Threats



Q-Courier is a Quantum-Resistant Mail Server that protect email communications from current and future quantum threats. By combining NIST standards compliant Post-Quantum Cryptography (PQC) with classical algorithms, this solution deliver hybrid security that ensures confidentiality, integrity, and authentication. Q-Courier remains fully compatible with existing networks and clients. Indigenously developed and standards-aligned provides a future-proof approach to secure HTTPS and S/MIME email communications, making it ideal for government, defense, telecom, and critical infrastructure.

WHY Q-COURIER?



Traditional TLS and S/MIME rely solely on classical algorithms, which are vulnerable to future quantum attacks. Our hybrid PQC solution ensures long-term confidentiality and authentication while allowing a smooth, compatible migration to quantum-safe communications.

KEY HIGHLIGHTS



01

Quantum-safe
TLS for web
servers



02

S/MIME email
encryption with
post-quantum
signatures



03

Hybrid
cryptography
(Classical + PQC)
ensures backward
compatibility



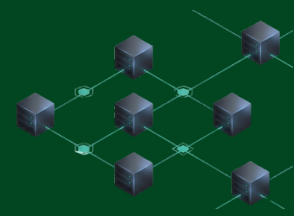
04

High
performance
and low-latency
for enterprise
workloads



05

Fully aligned
with NIST PQC
roadmap & ETSI
PQC standards



Specification Summary

Specification Area	Details
Email Protocols	SMTP, POP3, IMAP
Transport Security	STARTTLS for SMTP, POP3, and IMAP
Encryption Model	Hybrid encryption using Classical + Post-Quantum Cryptography
Key Exchange	CRYSTALS-Kyber (FIPS 203) combined with classical key exchange as defined in NIST SP 800-56A Rev. 3
Authentication & Integrity	Dilithium digital signatures under FIPS 204 with classical signature fallback
TLS Versions Supported	TLS 1.2, TLS 1.3 (PQC-ready)
MTA-to-MTA Security	Quantum-resistant encrypted channels between mail transfer agents
Client-to-Server Security	Secure email submission and retrieval with quantum-safe TLS
Data Migration Service	Fully interoperable with existing mail servers, clients, and gateways
Future Readiness	Designed for seamless transition to full post-quantum-only modes
Spam Protection	Advanced spam filtering with real-time reputation checks and content analysis
Malware & Virus Scanning	Automatic scanning of all inbound and outbound emails
Webmail Interface	Secure browser-based email access
Email Archiving & Logging	Compliance-ready message tracking and audit logs
High Availability Support	Supports clustered MTAs, backups, and failover deployments
Backup & restore	Automated mailbox and configuration backups



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