



Q-LOCK: Remote Key & Certificate Management Without Key Transmission

•The PROBLEM

- The 40-Year PKI Security Paradox
- To update a key remotely, you must TRANSMIT it
- Man-in-the-Middle vulnerability during transmission
- Physical access required for secure updates
- Cannot scale to billions of IoT devices
- Quantum threat by 2030

•Q-LOCK SOLUTION

- Patented Breakthrough Innovation
- Synchronized asymmetric key derivation at both endpoints
- Key never transmitted over any network after initial setup
- CRL Free Validation
- Offline-capable rekeying
- PQC Migration Enabler

Q-LOCK: Solving the 40-Year Security Paradox

The 40-Year PKI Security Paradox

Current PKI
Remote Key Update
Man-in-the-Middle Vulnerability
Key Transmission Exposed

Impending Quantum Threat
(By 2020: Harvest Now, Decrypt Later Attacks)

Certificate Validation:
O(n) – 100-150ms
(Too Slow for Real-Time)

Rip & Replace is Unsustainable
(Economically Impossible at Scale)

The Breakthrough: The Q-LOCK Solution

New Synchronized Key (No Transmission)

Remote Key Updates WITHOUT Key Transmission

Quantum-Ready Migration
(Software-only Path to Post-Quantum Cryptography)

Instant & Efficient Certificate Revocation
O(1) – <3ms, 30x Improvement

Fully Automated & Offline Capable
(Offline Rekeying Supported)

One Technology, Seven Strategic Markets

- SEC-LOG (Supply Chain): Offline Rekeying for Trackers
- 6G-LOCK (Telecom): Remote eSIM Key Updates
- SEC-V2X (Automotive): Meets <50ms Response Time
- SEC-QID (Digital Identity): Remote Updates for Smart Cards
- SEC-PAY (Payment): Automates Key Rotation, DORA/PCI-DSS
- SEC-DEF (Defense): Instant, Global Key Rotation for Deployed Assets
- SEC-IoT (Industrial IoT): Lightweight, Scalable Security

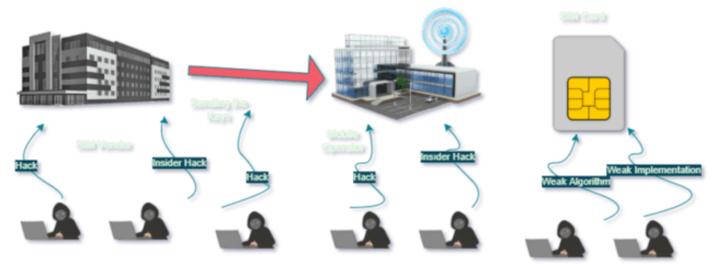
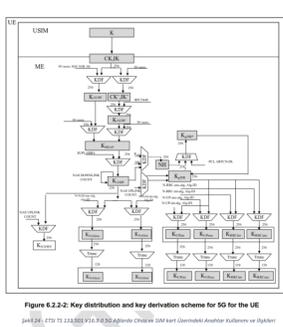
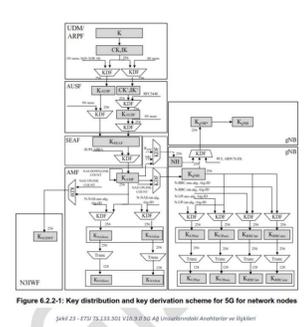
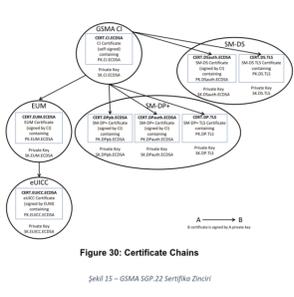
	Current PKI	Q-LOCK Solution
Key Transmission	Required (MITM risk)	None (Immune to interception)
Certificate Validation	O(n) – 100-150ms	O(1) – <3ms
Rekeying Latency	50-300ms (Network dependent)	<1ms (Local computation)
Bandwidth Usage	High (CRL distribution)	90%+ reduction
Offline Operation	Not Supported	Fully Supported

Ready for Deployment: Join the Q-LOCK Consortium

Technology Readiness: TRL 8
(Complete, Qualified, Ready for Deployment)

Seeking Partners Across All Eureka Countries
(Telecom, Auto, Finance, Govt, IoT, Research Institutes)

Patented & Protected Innovation:
Technology is protected by international patents W02024162915 and W02024162916...



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