

QCRYPTA

Quantum-Safe Contract Integrity System

USER GUIDE

How to Use the QCRYPTA Contract System

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Overview

QRYPTA is a world-first quantum-safe contract integrity system powered by Post-Quantum Cryptography (PQC) — ML-DSA-65 (FIPS 204) and ML-KEM-768 (FIPS 203). It provides legally binding digital contract signing with optional QRYPTA Secure Vault storage using AWS S3 Object Lock.

This guide covers the complete process for using the QRYPTA Bilateral and Unilateral Contract Systems.

Prerequisites — Before You Start

■ *You must have BOTH the contract document (PDF) AND its SHA-256 Hash code.*

- A valid QRYPTA subscription (for Legal Contract mode)
- Your QRYPTA Client Key (received by email after subscription)
- The contract PDF file ready on your computer
- The SHA-256 Hash code of the contract PDF
- Email addresses of all parties (Alice, Bob(s), Agent if applicable)
- OTP access via email and SMS for authentication

Step 1: Subscribe & Get Client Key

Option A: PayPal Payment (Instant)

- Go to QRYPTA Plans page (plans-a.html)
- Select your plan (Starter / Professional / Middle Enterprise / Enterprise I)
- Click Subscribe button → Choose "PayPal / Card" tab
- Complete PayPal payment
- Your Client Key is generated automatically and emailed to you
- Key format: QRYP-ST-XXXXXXXX-XXXXXXXX

Option B: Bank Transfer (No PayPal fee)

- Go to QRYPTA Plans page (plans-a.html)
- Click Subscribe → Choose "Bank Transfer" tab
- Transfer SaaS price (excluding PayPal fee) to Faihoplo Inc. rho.co bank
- Bank: rho.co | Account: Faihoplo, Inc. | Routing: 021913655 | Account: 746-732-5431
- Email receipt to: htkim580711@outlook.com
- Include: your email address + plan name + transfer receipt
- Faihoplo will verify and email your Client Key within 24 hours

■ *Keep your Client Key safe! You will need it every new session for Legal Contract mode.*

Step 2: Registration & Login

- Open qrypta-bi-app.html (Bilateral) or qrypta-uni-app.html (Unilateral)
- Cover page appears showing system overview
- Click "Login — Enter System"
- If new user: Click "Register" and create account
- Complete registration with email and SMS OTP authentication
- Login with your credentials
- Dashboard appears after successful login
- Click "Bilateral Contract" or "Unilateral Contract"

Step 3: Select Contract Mode & Payer

3.1 Select Test or Legal Mode

- Test Mode (FREE) — For testing only. NOT legally binding. No client key required.
- Legal Contract — Legally binding. Requires valid QRYPTA subscription and Client Key.

When Legal Contract is selected:

- "Have you already subscribed?" popup appears
- Click "Yes — I have a subscription"
- Enter your Client Key (QRYP-ST-XXXXXXXX-XXXXXXXX)
- Click "Validate & Enter Legal Mode"
- Legal mode is unlocked for this session

■ *If you do not have a subscription, click "No — I need to subscribe" to open the Plans page.*

3.2 Select Payer (Bilateral only)

- Ag — Agent pays all fees
- Aa — Alice pays all fees including Bob's
- Ba — Bob reimburses Alice after signing
- Sp — Split payment between parties

3.3 Select Agent or No Agent

- With Agent — An agent witness will confirm all signatures
 - No Agent — Contract proceeds without witness
- Click "Next: Contract Log" to proceed

Step 4: Contract Log File

"Is the log file already made?" screen appears.

4.1 If log file does NOT exist yet (First time)

- Click "Yes" first to check if log exists with your Hash code
- Enter the SHA-256 Hash code of your contract PDF
- If log is absent: Click "Back" to return to Yes/No screen
- Click "No — Make it now"
- Follow the guide to create the log file
- Generally Alice or Agent creates the log file
- Upload the contract PDF and enter all required details
- Click "Create Log File"

4.2 If log file already exists

- Click "Yes — Log exists"
- Enter the SHA-256 Hash code
- The existing log file appears on screen
- Verify the contract details
- Proceed to signing

■ *The SHA-256 Hash code uniquely identifies your contract. Generate it using [Hash256.html](#) on our website.*

Step 5: Contract Signing Process

After the log file is confirmed, click "Who are you?" button.

Select your role: Alice (First Party) / Bob (Second Party) / Agent (Witness)

5.1 Bilateral Signing Order

The signing must follow this exact order:

- Alice signs first (Contract Initiator)
- Alice downloads signed PDF → sends to Bob 1 by email
- Bob 1 verifies Alice's signature → signs → downloads → sends to Bob 2
- (Repeat for multiple Bobs — each verifies and signs in order)
- After all Bobs sign → Alice confirms all Bob signatures
- Agent verifies all signatures including Alice's confirmation → signs as witness
- All verifications and signatures recorded at end of PDF for audit trail

5.2 Unilateral Signing Order

- Alice creates contract and signs first (Initiator)
- Multiple Bobs sign independently (counter-signatories)
- No negotiation — Bobs accept terms as presented

5.3 Completing Without Vault

- After all signatures complete, click "Exit" button
- Final log file is created and displayed on screen
- Save the log file PDF and keep it safely

Step 6: QRYPTA Secure Vault Storage (Optional)

QRYPTA Secure Vault provides permanent, tamper-proof storage using AWS S3 Object Lock (COMPLIANCE mode).

6.1 Vault Storage Process

- BEFORE clicking Exit → click "Select Retention & Store in Vault"
- Select retention period: 3, 5, 7, 10, 15, 20, 25, or 30 years
- Contract is stored in temp vault for 7 days (pending payment)
- PayPal vault payment popup appears
- Pay vault storage fee via PayPal
- Vault is automatically activated after payment
- AWS S3 Object Lock (COMPLIANCE mode) applied — permanently immutable
- Contract cannot be deleted or modified
- Download Contract Log PDF after vault activation

■ When "Store in Vault" is clicked, the exit log is automatically saved in background. You can download the complete log PDF after vault activation.

6.2 Vault Storage vs Contract Signing

- Contract signing (Steps 4-5) and Vault storage (Step 6) are two SEPARATE processes
- You can complete signing WITHOUT vault storage
- Vault storage is optional but recommended for legal protection
- The exit log is always saved regardless of vault choice

6.3 7-Day Temp Vault Warning Schedule

- Day 0: Contract signed → stored in temp vault
- Day 3: 1st warning email sent (4 days remaining)
- Day 5: 2nd warning email sent (2 days remaining)
- Day 6: Final warning email (24 hours remaining)
- Day 7: Auto-deleted if payment not received

Step 7: After Contract Completion

7.1 Without Vault

- Click Exit button after all signatures
- Final log screen appears with complete audit trail
- Download log PDF — keep it safely
- Share log PDF with all parties as legal proof

7.2 With Vault

- After vault activation, click "Download Contract Log PDF"
- Complete log with all signatures is downloaded
- Share log PDF with all parties
- Use Contract ID to check vault status anytime

Frequently Asked Questions (FAQ)

Q1: What is the SHA-256 Hash code?

The SHA-256 Hash is a unique 64-character code that identifies your exact contract PDF. It proves the document has not been modified. Generate it using Hash256.html on our website.

Q2: What if I forget my Client Key?

Contact htkim@faihoplo.com with your email address and birthday for verification. We will retrieve your key.

Q3: Can I use Test mode for real contracts?

■■ NO. Test mode is for testing only. It is NOT legally binding. Always use Legal Contract mode for real contracts.

Q4: What is the difference between Bilateral and Unilateral?

Bilateral: Both parties negotiate and agree on terms (Real estate, MOU, NDA, Partnerships). Unilateral: One party sets the terms and multiple parties sign without negotiation (Government procurement, Employment, Terms of Service).

Q5: Is the system legally binding?

Yes! QRYPTA is fully compliant with the ESIGN Act (2000), UETA, and eIDAS. All signatures include email OTP + SMS OTP authentication and complete audit trails.

Q6: What if the vault payment fails?

Your contract is stored in temp vault for 7 days. You have 7 days to complete payment. Warning emails are sent on Day 3, 5, and 6. If not paid by Day 7, the temp contract is deleted.

Q7: How many parties can sign?

QRYPTA supports 2 to 50 parties per contract. This includes Alice (1), multiple Bobs (up to 48), and 1 optional Agent witness.

Contact & Support

- General inquiries: htkim@faihoplo.com
- Bank transfer receipts: htkim580711@outlook.com
- Technical support: htkim@faihoplo.com
- Lost client key: htkim@faihoplo.com

Response time: Within 24 hours (business days)

Address: 251 Little Falls Drive, Wilmington, DE 19808

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