RPORT

RPT

Technical Whitepaper

The Design and Verification of RPT

Issuance · Reserves · Redemption · Authority · Security



rport.vip / v1.0.0

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"RPT links supply and reserves through program rules and distributes authority so anyone can verify the on-chain state."

RPORT Technical Whitepaper

Issuance, Reserves and Verification

Scope of RPT

RPT is a Solana-based token designed by RPORT. This whitepaper describes how official purchases settle in USDT and mint RPT, how official redemptions burn RPT and pay out USDT, and the reserves, operating authority, and verification procedures these processes require.

Verification by Default

An operator's statements alone do not establish that the system is operating as intended. Anyone reviewing it should be able to cross-check the issuing authority, vault address, token supply, and transaction results. If the documented conditions differ from the observed state, verify actual operations separately.

Design and Live Operations

This document describes a technical design. Deployment addresses, reserve balances, multisig signers, and LP locks must be verified against on-chain records. RPT is separate from RPORT's STO business and compensation plan. This document does not guarantee equity, returns, or redemption payments. Page 23 lists items not disclosed here.

Two Official Flows

Official purchases mint RPT once the designated USDT settlement has been verified. Official redemptions are designed to burn submitted RPT and pay net USDT from reserves. The design sets a 0% purchase fee and a 1% fee on gross redemption. Verify final rates against the published configuration.

Three Checks

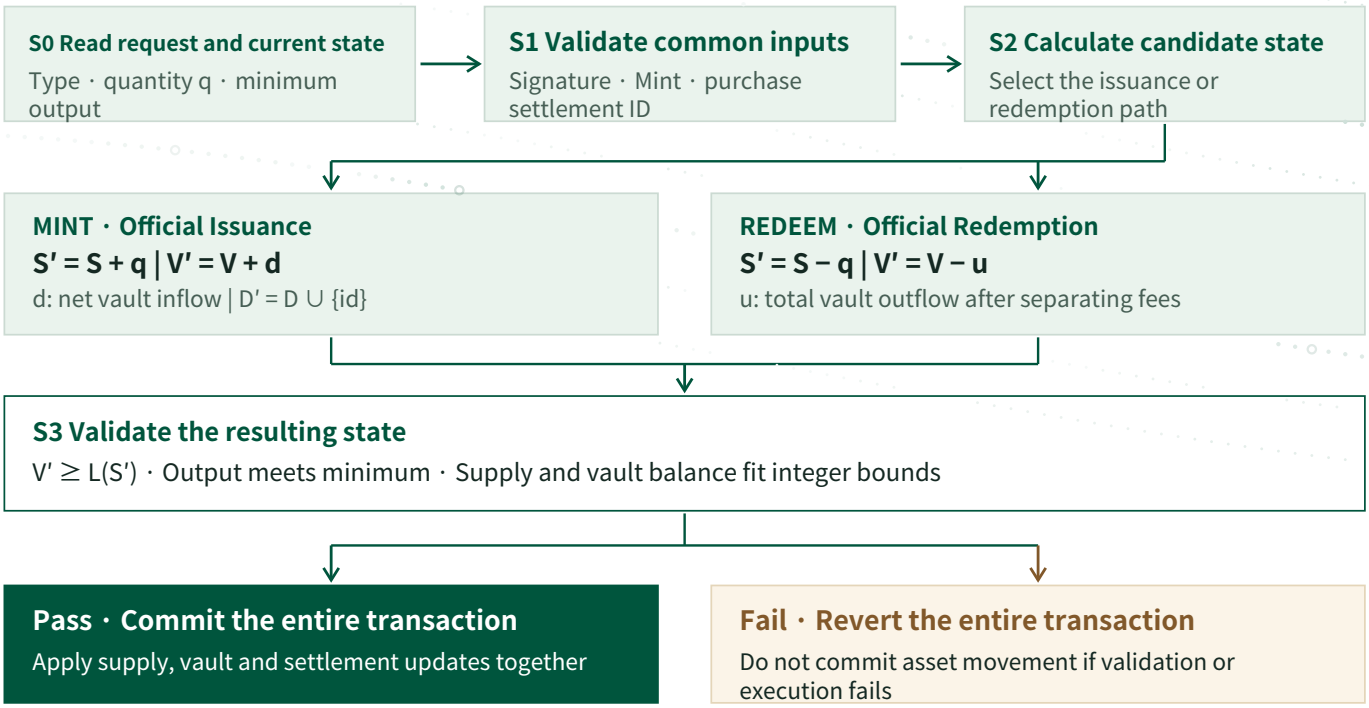
Check the live supply recorded by the official Mint. Reconcile USDT in the reserve vault with settlement records. Then verify that mint, vault, and upgrade authorities match the published configuration. Any mismatch requires further verification before treating the system as operationally sound.

From Issuance to Verification

Figure A Issuance and Redemption State Transitions

Design overview, not executable code

S = net RPT supply; V = official USDT vault balance; D = set of processed purchase settlement IDs



L(S′) is the redemption liability for the remaining supply. See page 22 for proposed integer rounding and pages 25–26 for instruction paths.

From User to Vault in One Transaction

User and Request

The user reviews and signs the transaction in their wallet. The request includes the target token account, a settlement identifier, and minimum acceptable output. A preview is not an executed transaction; use the state recorded on the network.

Verify Official Addresses

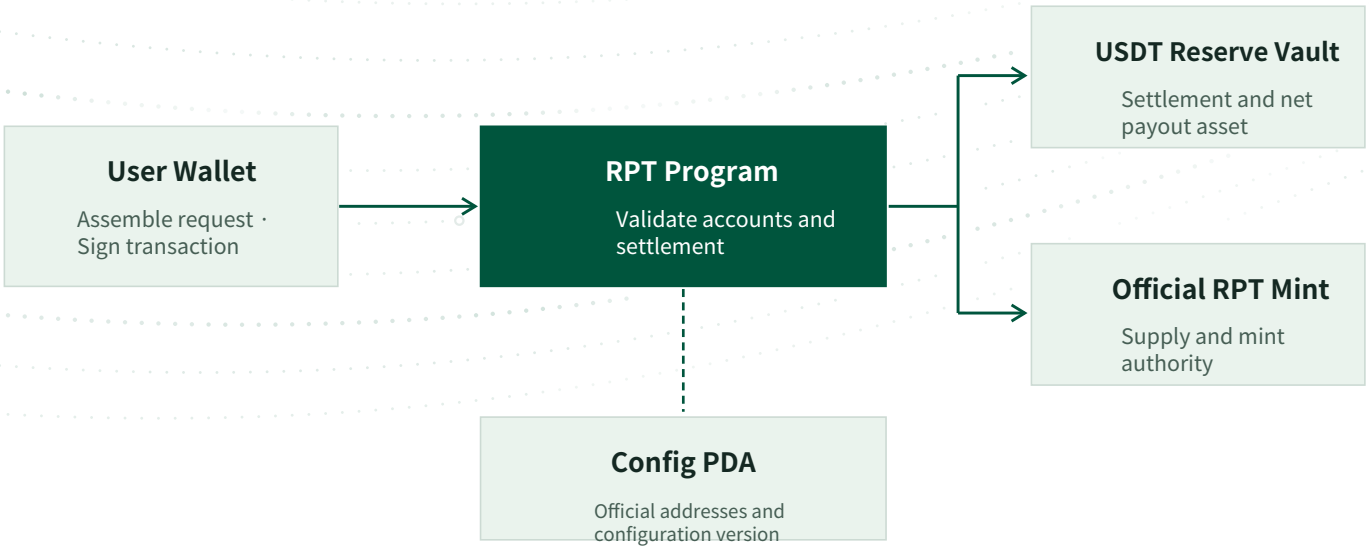
Verify the network, program ID, official Mint, USDT Mint and vault address together. Another token can use the same name or symbol; never identify it by name alone. If supply and balance snapshots come from different times, flag the time difference.

Program and Accounts

The RPT program cross-checks the official Mint, approved USDT Mint, reserve vault, and configuration account. It verifies account ownership, authority, required token balances, and state rather than trusting request-supplied addresses alone.

Figure 01 On-Chain Components and Verification Path

Design baseline



Verify the program ID, Mints, PDA, and vault address on the same network.

USDT Settlement First, RPT Issuance Second

Link Settlement to Issuance

Once the program verifies that USDT from an official purchase reached the designated vault, it calculates the amount it may mint. The PDA mints RPT; USDT is the settlement asset. The design does not let an operator wallet mint RPT at its discretion.

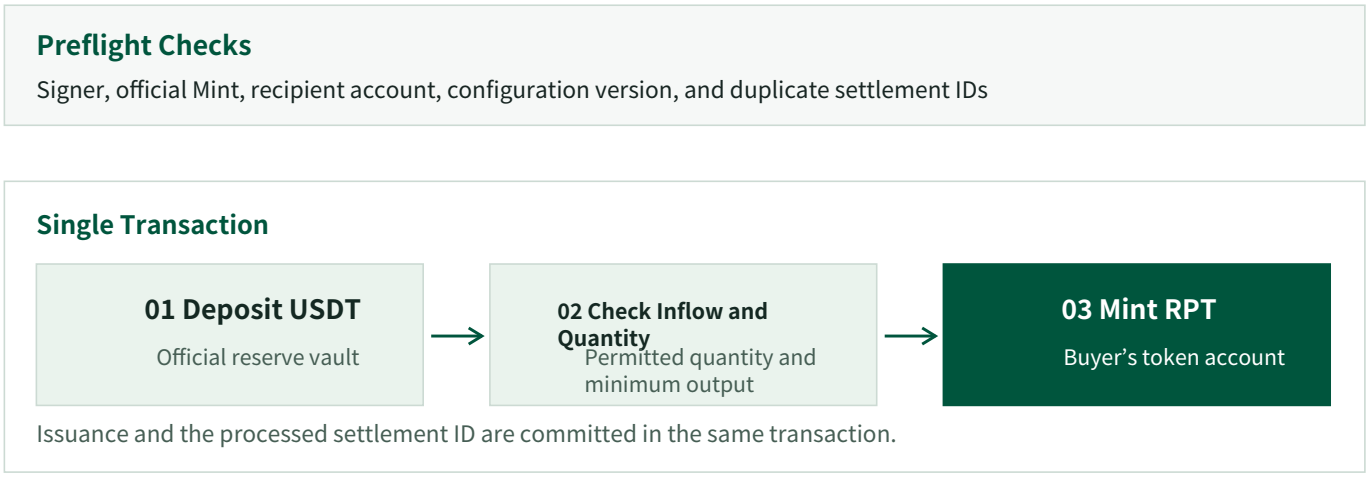
No Issuance on Failure

Verify official addresses, settlement amount, destination account, permitted state, and minimum output. Settlement and issuance are designed to occur in one transaction. If any check fails, no partial issuance is committed.

Reject Duplicate Requests

Each official purchase has one settlement identifier. Retries use the same identifier and do not mint again for a purchase that already succeeded. If the outcome of the earlier request is unclear, look up the transaction and its processing record first.

Figure 02 **Official Purchase and Issuance Algorithm** Design baseline



Failure If any step fails, the USDT deposit and the RPT issuance are not committed.

Return RPT for a Payout from Reserves

Redemption Request

In an official redemption, a user submits RPT and receives USDT from reserves. The program verifies the user's authority, RPT balance, official Mint and vault, estimated payout, and user-specified minimum output.

Conditions for Burn and Payout

RPT burn and net USDT payout are steps in the same transaction. The design commits neither asset movement if either step fails. Network fees may still apply to failed transactions recorded on-chain.

1% Processing Fee

The design fee is 1% of gross redemption. Before signing, the user should be able to see gross redemption, the fee, and estimated net payout separately. The fee is recorded separately. Network fees and external exchange costs are not included.

External Swaps Are Separate

An external swap trades against external liquidity or a counterparty. On its own, an external swap does not draw from official reserves or burn RPT automatically.

Figure 03 **Official Redemption and Burn Algorithm** Design baseline

Preflight Checks

Signer, RPT holdings, estimated net payout, minimum output, and post-payout reserve floor

Single Transaction

01 Calculate Gross Redemption
Difference on the curve

→

02 Burn Submitted RPT
Supply decreases

→

03 Pay Net USDT
1% processing fee by design

Record net payout and fees separately. External swaps are outside this flow.

Failure If burning or payout fails, asset movements do not commit. Network costs are separate.

Reserves and Supply

Reserve Accounting

Track official USDT settlement receipts, official redemption payouts, operating fees, and authorized vault transfers separately. Tie reserve liabilities to supply under the design rules. The gross vault balance alone does not establish what can be paid immediately.

Verify Solvency

The baseline invariant is reserve balance ≥ reserve liability. Before redemption or vault transfer, compare expected balances and liabilities after execution. Authorization does not create an exception when the condition is not met.

Supply and Redemption Records

Verify Solvency Against Synchronized Records

Distinguish Supply from Redemption

Read actual supply from the official Mint and reconcile cumulative minting less all burns. If direct burns are permitted by the token program, they reduce supply but do not themselves create an official redemption or USDT payout record.

Reconcile the Records

Read vault and Mint state as of the same reference point and distinguish omissions, duplicates, and third-party transactions. If records diverge, preserve them and identify the underlying transaction before attempting automated reprocessing.

Figure 04 **Reserve Floor Check** Design baseline



Reject payments and transfers below the floor. Exclude separate fee accounts and LP positions from eligible reserves.

Issuance Authority Does Not Rely on One Key

PDA Mint Authority

Under the design, the program controls the authority for the official Mint through a PDA. It cross-checks addresses, owning programs, and authority definitions to reject requests that supply the wrong Mint or vault.

3-of-5 Multisig

Vault configuration changes, excess reserve transfers, and fee settlement require approval from three of five operators by design. Ordinary redemptions execute automatically under program rules. Verify signer addresses and upgrade authority separately on the deployed program.

Illustration of the three-of-five approval threshold.

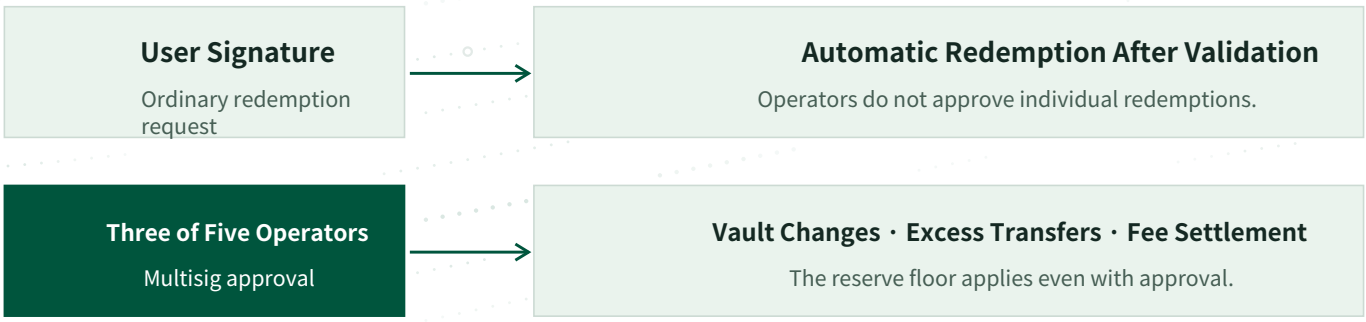
Three Types of Authority

① Issuance: Who may mint RPT and under what conditions? ② Vault: Who may move USDT and within what limits? ③ Changes: Who may modify the program or configuration? These authorities remain distinct even if they share a signature policy.

Evidence to Verify

When publishing the program upgrade authority, token authority, and vault approval path addresses, include their current state and change transactions. Do not infer actual signers or authority transfers without deployment evidence.

Figure 05 **Ordinary Redemption and Operator Approvals** Design baseline



Verify signer addresses and program upgrade authority against the actual deployment records.

When a Transaction Fails, Record Where It Stopped

Active, Paused, and Migrating

In the active state, the design permits official transactions under valid settings and within limits. A pause restricts new risky instructions while keeping records available for inspection. Migration must prevent concurrent use of old and new authorities.

Do Not Treat a Failed Request as a New One

Submission, inclusion on-chain, and final confirmation are distinct states. If the outcome is unclear, first look it up by signature and settlement identifier. Before retrying or collecting a new signature, check whether the earlier request could cause duplicate issuance.

Recovery and Notification

Before resuming, verify vault and Mint state, the last successful transaction, the failure cause, and the applied configuration. If only certain features are paused, do not present it as a system-wide pause. Document customer-facing status separately from the operator's verification steps.

Verification Standard

Publish incident time, scope, verifiable transaction information, corrective actions, and resumption criteria separately. Do not present an unconfirmed cause as fact.

Displayed Decimals and Calculation Integers

Base Units

RPT is designed with six decimal places: 1 RPT equals 1,000,000 base units. Internal calculations do not use display-oriented floating-point values. Reject excess precision and out-of-range inputs during integer conversion.

Issuance and Redemption Precision

Calculate mint quantity so it does not exceed what the settlement supports. Report gross redemption, fees, and net payout separately. The verification implementation and whitepaper draft differ on the rounding-down sequence for fees and net payout; settle on one rule before deployment.

Reproducible Tests

Test zero, one base unit, excess decimal precision, full redemption, and values close to the maximum. The client and deployed program must agree given the same inputs and settings. Verify agreement using published test vectors and execution results, not example prose.

The Lock Does Not Apply to User Tokens

What Would Be Locked

The proposed lock covers the RPT/USDT liquidity position owned by the operator. It does not universally lock RPT that users receive or hold in their wallets. The official redemption reserve vault and external liquidity positions are also separate.

Purpose and Limits

The design aims to restrict discretionary withdrawal of the position's principal. A lock does not guarantee trading prices, liquidity depth, slippage, or redemption availability. Verify fee collection rights separately from the authority to withdraw principal.

How to Verify Externally

Check pool address, position ID, lock transaction, owner, lock contract, and the ability to change permissions. A permanent lock can only be claimed once the position's actual lock and any bypass authority are verified. Before operations, describe it only as a design objective.

Illustration of a liquidity position lock.

Failure Conditions Must Also Be Tested

Threats Covered

Key threats include requests supplying a fake Mint or vault, duplicate settlement, output below the specified minimum, authority misuse, insufficient reserves, and malicious upgrades. Verify each account rather than assuming that matching names or UI labels identify the same token.

Operational Controls

Keep records of authorities, approvals, incident response procedures, and repeat verification. Separate calculation checks and test results from actual deployment. Report an external audit or network deployment as complete only with a current report or verifiable transactions.

Test Both Success and Failure

In addition to valid purchases and redemptions, test incorrect Mints, missing signatures, replayed settlement IDs, stale settings, invalid minimum output, and asset-quantity limits. Confirm that failures do not improperly change supply or vault balances.

Verifiable Addresses and Transaction Records

Deployment Information

Document the network, program ID, official Mint, official USDT Mint, reserve vault, multisig, LP position, and lock transaction by version. For changes, record both the previous value and when it changed.

Verification Materials

Prepare the program version, token standard, test results, exception handling, and authority changes for publication. Identify which code version and deployment state the figures in this paper refer to.

Reading the Records

Distinguish a submitted transaction from one that successfully finalized. Compare vault balances only for the same Mint and reference time. Keep entries without a confirmed address marked as unverified.

A Design Is Not a Guarantee

Program and Network Risks

Errors, incorrect settings, network congestion, lost wallet keys, and external program outages can occur. Combining asset movements in a single transaction cannot eliminate delays in external services or differences between a preview and actual results.

Reserve and Market Risks

USDT and external liquidity carry separate market and operational risks. Vaults and LP positions serve different purposes. A single balance cannot establish total liquidity or whether payouts are available.

Limits of This Document

This whitepaper describes the technology. It does not establish ownership of real-world assets, profit distributions, market prices, legal status, or service availability. Before use, cross-check official notices against verifiable operational information.

01 PLATFORM AND ASSETS

Connecting Real-World Assets to Digital Markets

01 What RPORT Connects

RPORT connects companies holding real-world assets with users interested in those assets. Real RWA Partnership operates the platform. Companies present asset information and associated rights; users can compare terms and risks.

02 How RWAs and STOs Differ

A real-world asset (RWA) is a physical or financial asset, such as property, receivables, or equity, that underlies a digital record. A security token offering (STO) issues securities in token form when rights arising from an asset or business qualify as securities. Not all RWAs are securities.

03 From Asset Review to Rights Records

Before issuance, verify the underlying asset, scope of rights, issuer, and offering terms. Where issuance or distribution is permitted, check user eligibility and transfer restrictions under the product's terms and track issuance, holdings, and transfers.

04 What Holders Should Check

Product documents specify the rights holders receive, who is responsible for payment or repayment, and applicable restrictions and risks. The platform description does not establish that a specific asset is authorized, has been issued or distributed, or is tradable.

Concept illustration of a port linking real-world assets with digital markets.

Reference: Financial Services Commission guidance on security tokens

02 UNIT OF ACCOUNT · FEES · REWARDS

RPORT's Unit of Account RPT

01 A Unit for Comparing Prices and Costs

RPT is designed as a unit of account for asset prices, transaction costs, and reward amounts in the RPORT ecosystem. Quoting in RPT does not imply settlement in RPT. The transaction screen identifies the actual settlement asset and conversion time.

02 Fee Payment and Settlement

Supported services and transactions are designed to let users see and pay fees in RPT. Before execution, the design calls for showing which actions incur fees, the applicable rates, collection units, and separate network costs. These platform fees are distinct from RPT's 0% official purchase and 1% official redemption fees.

03 Rewards for Platform Participation

RPT may be used to reward approved activity or ecosystem participation. Eligibility, calculation, limits, and funding are disclosed separately in the reward policy. Holding RPT alone neither generates nor guarantees rewards or returns.

04 RPT and Product-Specific Rights

RPT itself grants no ownership, dividend, or repayment rights in individual STOs. Internal RP and the existing compensation plan are also separate. Consult official notices by feature for available uses and whether payments or rewards have gone live.

Reward Funding and Issuance Limits · Page 27

Before a Transaction

Verify official addresses, the settlement asset, fees, and minimum output. See page 23 for deployment addresses and authority checks.

Verify the Official Address Before the Token Name

Basic Identifiers

The token is named RPORT, with the symbol RPT. The network is Solana Mainnet, and the design uses the original SPL Token standard. An asset with the same name or symbol but a different official Mint or owning program is not the same token.

Precision and Supply

Precision is six decimal places. One RPT equals 1,000,000 base units, and initial supply is designed to be zero. There is no separate business supply cap. Token-program integer fields and the vault's actual capacity remain technical limits.

Settlement Asset and Costs

The settlement asset is identified by the official USDT Mint. A 0% purchase fee and 1% redemption processing fee are whitepaper design values. Network costs are separate. Check actual conditions and settings before transacting.

Initialization Checks

Prevent reinitialization of the configuration that records the official Mint and vault. Verify initial supply, decimals, token program, and mint, freeze, and upgrade authorities. Do not approve launch while temporary deployment authority remains.

Token Details and On-Chain Addresses	Value
Token Name / Symbol	RPORT / RPT
Network / Token Standard	Solana Mainnet / SPL Token
Decimals / Initial Supply	6 / 0 RPT
Supply Cap	No separate supply cap
Official RPT Mint Address	
RPT Program ID	
Official USDT Mint Address	
Reserve Vault Address	
Operations Multisig Address	

Issuance and Redemption Each Complete in One Transaction

Official Purchase: Validate → Deposit → Mint

Verify the signer, recipient token account, official Mint, configuration version, and settlement ID. Calculate the permitted issuance from the actual USDT increase in the designated vault, then mint RPT to the user's account. Record the processed ID in the same transaction.

Official Redemption: Validate → Burn → Pay

Check submitted RPT, expected payout, fee, and minimum output. Check the post-payout reserve floor first. Count the transaction as an official redemption only if the burn, net payout, and transaction record all commit.

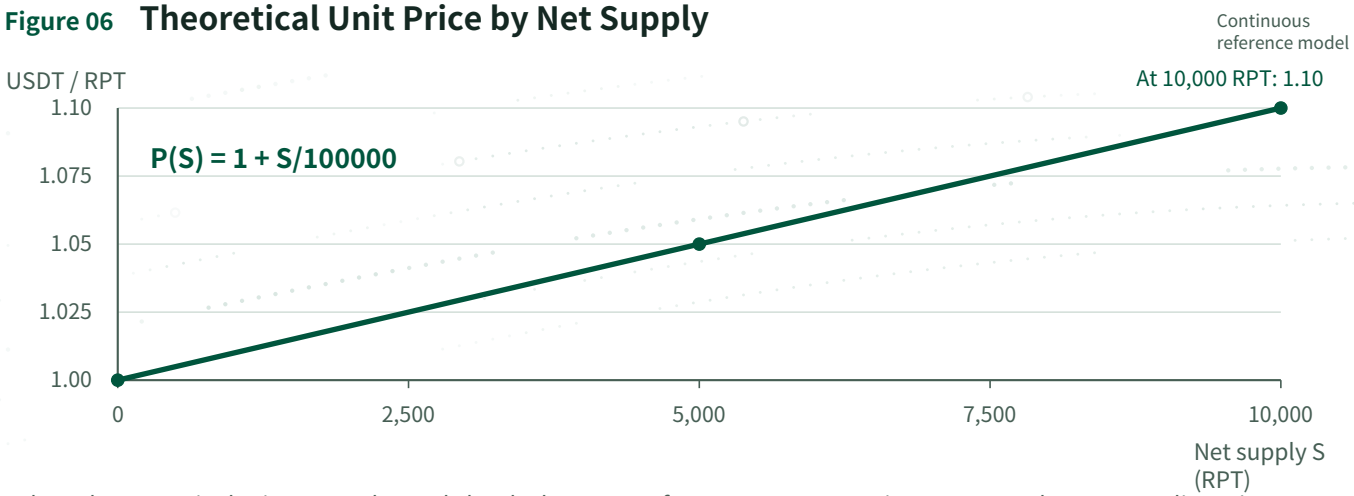
Continuous Reference Model Check

A reference test that mints 10,000 RPT from zero supply costs 10,500 USDT. Redeeming the full amount from that supply yields 10,500 USDT gross, a 105 USDT fee, and a 10,395 USDT net payout. This is a local calculation, not a live transaction.

Difference Along the Curve

For net supply S, use $P(S) = 1 + S/100000$ and the cumulative curve $B(S) = S + S^2/200000$. Buying q costs $B(S+q) - B(S)$, and gross redemption equals $B(S) - B(S-q)$. The starting unit price for the next transaction (1.10 USDT here) differs from the average purchase price (1.05 USDT).

Figure 06 Theoretical Unit Price by Net Supply



Values show marginal prices at each supply level. The average from 0 to 10,000 RPT is 1.05 USDT. These are not live prices.

Reconcile Four Ledger Categories

Reserve Assets

Verify the official USDT Mint and vault ownership before reading the balance. Do not include separate fee accounts, LP positions, or tokens from other Mints in this vault's redeemable assets.

Redemption Liability

Apply official redemption rules to outstanding RPT to calculate the USDT liability. Record the configuration version and reference slot used. Compare the reserve floor with the projected post-transaction balance.

Fees and Rounding Residuals

Record processing fees separately from residuals left by conversion to base units. Do not count either twice in backing assets. A high vault balance alone does not authorize fee withdrawal.

Handling Discrepancies

Start by reconciling supply, balance, and settings at the same slot. If only supply fell, distinguish a direct burn from an official redemption. Until the source transaction is established, do not reissue automatically or classify the amount as withdrawable.

During an Incident, Verify Before Retrying

Identify Transaction Status

Distinguish submission, on-chain inclusion, and final confirmation. If the outcome is unclear, look up the same settlement ID and signature first. Do not resend under a new settlement ID without checking.

Emergency Pause

Follow the procedure to pause affected instructions if the reserve floor is breached, duplicate issuance is suspected, or an authority appears compromised. Keep evidence available for inspection during a pause. Pause authority does not grant permission to withdraw from the vault.

Review and Resume

Reconcile program and configuration changes, vault balance and supply, and the last successful transaction. Resolve the cause and complete reproductions before resuming under the authority policy. Tell users what was done during recovery and which version now applies.

Upgrade Evidence

Compare the approved binary hash with the deployed program. Reconcile supply, vault balance, liabilities, and settlement IDs before and after migration. Verify the actual authorities for the 3-of-5 approval structure and confirm there is no bypass.

Distinguish Fixed Rates from Implementation Proposals

Purchase Quantity and Residuals · Proposal

Compute the maximum number of whole RPT base units the actual USDT deposit can buy. Round the curve cost up to a USDT base unit and return unused USDT in the same transaction. The implementation that derives mint quantity from the actual deposit remains unverified.

Redemption Fee · 1% Rate

Rounding the 99% net payout and 1% fee independently down to base units is a proposal. Record the rounding difference separately from the fee. The proposal rejects inputs that yield zero payout or issuance.

Reserve Floor · Proposal

Use the full curve liability of the remaining supply after redemption, rounded up to a USDT base unit, as the floor. Reject payouts or operator withdrawals that would leave the balance below it. Verify on the actual program that calculations and state changes are atomic.

Preview versus Reference Model

The reviewed preview uses a stepped calculation and returns 10,450 USDT for 10,000 RPT. Check that quotes and execution match the continuous reference test. Do not use preview values as live quotes or a final specification.

Verifying Live Operations Requires Addresses and Transactions

Official Addresses / Unverified Here

Cross-check the program ID, RPT Mint, official USDT Mint, reserve vault, and configuration PDA on the same network. Link each address to its deployment transaction, registration time, and applicable version.

Authorities and Controls / Unverified Here

Verify mint, freeze, vault, and upgrade authority. Check the multisig address, approval threshold, execution transactions, and configuration changes. The initial settings must match actual operating authorities.

Reserves and LP / Unverified Here

Check the vault's official asset and balance, and supply and liabilities at the reference point. For the LP, separately verify the pool address, position ID, lock transaction, principal withdrawal authority, and permissions that could create a bypass.

Audit and Tests / Unverified Here

Link test inputs, actual results, review scope, remediation commits, and the deployed version. If an audit report is published, verify that it covers the same program and version.

Launch Evidence Register · Page 31

Reading the Whitepaper Alongside Transaction Records

Mint · ATA · PDA

A Mint defines a token's supply and authorities. An ATA is a standard token account associated with a specific owner and Mint. A PDA is an address derived by a program, without a private key of its own.

Official Redemption and External Swaps

Official redemption means burning tokens and paying out from reserves under program rules. An external swap trades on an exchange or in a pool and does not by itself imply an official reserve payout or burn.

Official Solana Developer Documentation

Transactions:
solana.com/docs/core/transactions
Program Derived Addresses:
solana.com/docs/core/pda
Mint Tokens:
solana.com/docs/tokens/basics/mint-tokens
Burn Tokens:
solana.com/docs/tokens/basics/burn-tokens

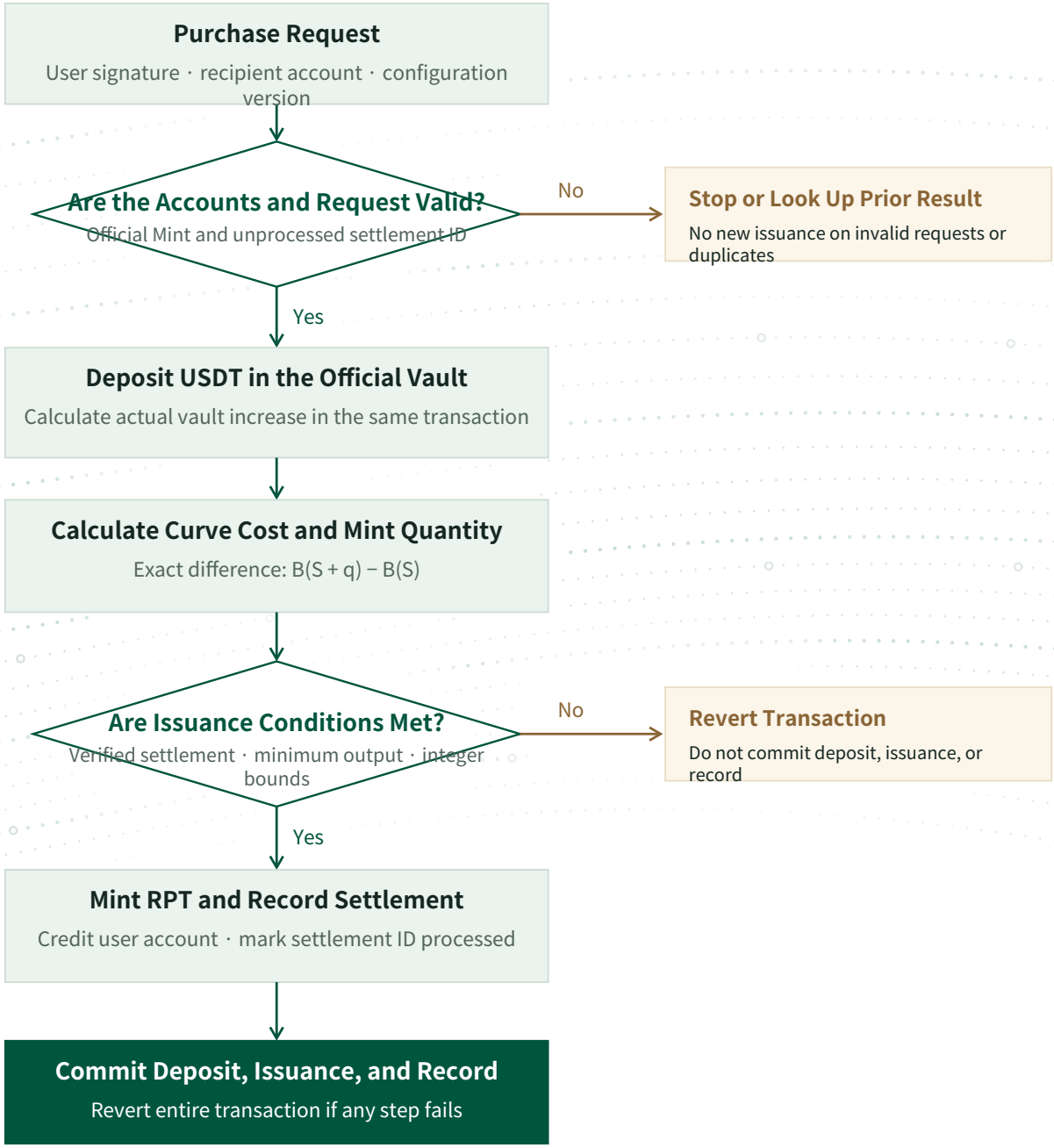
Scope of the References

Solana documentation explains the network and Token Program generally. It does not verify RPT reserves, operating authority, LP locks, an external audit, or a live deployment. Verify these separately against official RPT deployment records.

Figure 07 / Algorithms Appendix

Official Purchase and Issuance Flowchart

S = net supply immediately before trade; q = issuance quantity; B(S) = cumulative reserve curve



Implementation Items to Review

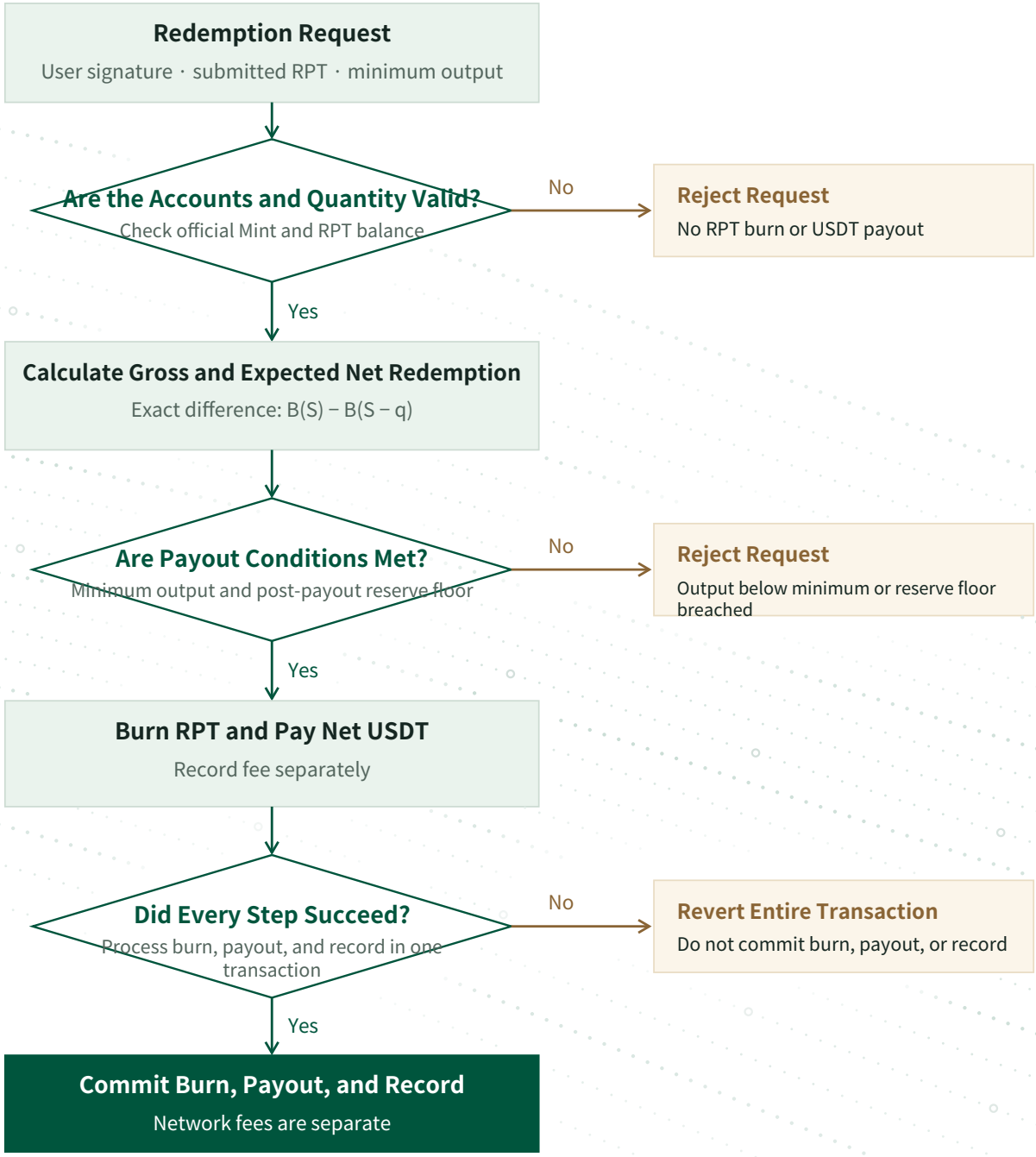
Deriving quantity from the deposit, the rounding sequence, and return of residual USDT are not yet operationally verified.

Issuance and Redemption Instructions · Page 29

Figure 08 / Algorithms Appendix

Official Redemption and Burn Flowchart

S = net supply immediately before trade; q = redemption quantity; official redemption fee by design = 1%



Implementation Items to Review

Rounding net payout and the fee down to base units is a proposal, separate from the 1% design rate.

Test Vectors and Failure Conditions · Page 30

Appendix 01 / Design Principles and Open Decisions

RPT Reward Funding and Issuance Limits

Platform rewards are designed not to conflict with RPT's official purchase issuance rule.

01 Rewards Transfer Existing RPT Rather Than Minting It

The current design links new issuance only to official purchases. For participation rewards, the option under review is transferring RPT already held by an authorized wallet to users. Do not use the USDT reserve vault to fund rewards.

Funding Candidate	Checks Before Use	Status
Platform Fees Received in RPT	Consider only fees actually received and permitted under policy. Distinguish them from network fees and official redemption fees.	Candidate, Not Approved
RPT Held by the Operator	Use only existing holdings with verified acquisition and quantity. Do not assume a separate issuance or pre-allocation.	Candidate, Not Approved
Official USDT Reserves	These assets back redemption liabilities. Keep them separate from reward funds.	Excluded from Funding

02 Operating Rules Before Launch

Establish the funding wallet, approval authority, limits per period, qualifying activities, reward IDs to prevent double payments, and scope of payment disclosures. If funds are insufficient, defer rewards rather than issuing RPT automatically or diverting reserves. Keep internal RP in a separate ledger.

Pending decisions: funding source, payout limits, and approvers. This document does not establish a reward launch or payout rate.

Appendix 02 / Calculation Specification

Purchase Quantity and Integer Rounding

These checks use the continuous reference model. Rounding and residual rules for live transactions are implementation proposals.

01 Inputs and Units

S is net supply immediately before the transaction, and q is the purchase or redemption quantity. Treat RPT and USDT as six-decimal base-unit integers. Accept inputs as decimal strings; check precision and range. Do not use floating point for intermediate calculations.

Continuous reference model $B(S) = S + S^2 / 200000$

Purchase cost = $B(S + q) - B(S)$

Gross redemption = $B(S) - B(S - q)$ · $0 < q \leq S$

02 Derive Issuance from an Exact USDT Input

Use integer search to find the largest q the deposit can buy. The purchase cost, rounded up to a USDT base unit, must still fit within the deposit. The proposal deducts the actual cost and returns unused USDT base units in the same transaction.

03 Net Redemption and the Vault Floor

Validate the proposal to round 99% and 1% of the exact gross amount independently down to base units. Record the difference separately from fees. Test the post-redemption liability using the full curve value of remaining supply, rounded up to a base unit.

Screen, Quote, and Execution Must Agree

Under the reference model, a purchase from 0 to 10,000 RPT costs 10,500 USDT. Do not use the reviewed stepped preview's 10,450 USDT as a live quote. The implementation must match this reference example and the base-unit boundary cases.

Appendix 03 / Interface Draft

Instructions and Validation Conditions

Instruction names and errors below are descriptive. Actual account addresses, invocation names, and numeric codes are not final.

Instruction	Inputs · Signatures · Accounts	Checks · Records
Official Purchase / Issuance	Settlement ID, configuration version, deposit, and minimum RPT output. Buyer signature, official USDT vault, RPT Mint, and recipient token account.	Check that the ID is unused, authority is valid, the vault balance increased, and quantity is permitted. On success record the deposit, issuance, configuration version, and settlement ID.
Official Redemption / Burn	Submitted RPT quantity, minimum USDT output, and configuration version. User signature, official RPT account and Mint, USDT vault, and recipient account.	Check holdings, expected net payout, and the post-payout reserve floor. On success record burn quantity, gross amount, fee, and net amount separately.
Vault Configuration and Operational Transfers	Target account, new value or requested amount, and proposal ID. Approval by three of five operators.	Check approval, replay, configuration version, and reserve floor after execution. Retain the proposal, execution transaction, and before/after state.
Status / Quote	Supply, reserve vault, configuration version, and transaction inputs. The query itself does not move assets.	Return reference slot, configuration used, base-unit result, and applicable conditions. This does not indicate that a live trade finalized.

Validation Failure Classes

Incorrect Mint or account, missing signatures, duplicate settlement, stale settings, minimum output not met, insufficient reserves, and integer range exceeded. Populate error identifiers and event schema after checking the actual specification.

Reference: Anchor Program Interface (IDL) documentation

Appendix 04 / Reference Tests and Proposals

Test Vectors and Failure Conditions

These are expected values for verification, not actual results from a live program or Mainnet.

Case	Input · Conditions	Expected Result
Standard Issuance	Continuous model. Net supply: 0. Purchase: 10,000 RPT.	Purchase cost: 10,500 USDT. Mint: 10,000 RPT.
Standard Full Redemption	Net supply: 10,000 RPT. Redeem: 10,000 RPT. Fee: 1%.	Gross: 10,500 USDT. Fee: 105 USDT. Net: 10,395 USDT.
Purchase Boundary	Apply the exact-input and round-up proposal. Net supply: 0. Deposit: 1.000005 USDT.	Maximum: 1.000000 RPT. The next base unit (1.000001 RPT) would cost 1.000007 USDT, more than the deposit.
Redemption Boundary	Apply the independent round-down proposal. Net supply: 1 RPT. Redeem the full amount.	Gross: 1.000005 USDT. Fee: 0.010000, net: 0.990004, rounding residual: 0.000001 USDT.
Duplicate Purchase	Resubmit a finalized purchase settlement ID with the same request.	No second issuance or deposit. Check the processing record and reconcile it with the previous transaction.
Failure and Reversion	Minimum output not met, projected reserves below the floor, out-of-range value, or step failure.	Reject the transaction. Issuance, burns, vault balance changes, and processing records must not be partially committed.

Records to Retain During Verification

Retain the reproduced source version, integer inputs, expected and actual results, and pre- and post-transaction supply and vault balances on the same basis. Identify local, testnet, and Mainnet results separately.

Appendix 05 / Prepublication Checks

Launch Evidence Register

This register expands page 23's checklist into evidence for execution. Do not confirm launch before verifying actual records.

Verification Area	Evidence to Publish	Status in This Paper
Deployment Match	Network, program ID, deployment signature, executable code hash, and public source commit. Reproduce the build and compare it with deployed code.	Operational Evidence Unverified
Assets and Reserves	RPT and USDT Mints, official vault, configuration PDA, supply, vault balance and liabilities at a reference slot, and actual issuance and redemption signatures.	On-Chain Evidence Unverified
Operating Authorities	3-of-5 policy, actual multisig address, threshold, freeze and upgrade authority addresses, and change records.	3-of-5 Design Confirmed / Actual Configuration Unverified
LP and External Audit	Pool and position IDs, lock transaction, and principal withdrawal and bypass authorities. Commit covered by the audit and remediation results.	Lock and Audit Completion Unverified
Rewards and Fees	Funding wallet, approvals and settlement records, rates and limits, and balance verification. Verify reward funds separately from the USDT reserve.	Funding and Operating Policy Not Final

Status Labels

Distinguish confirmed design, reference tests, testnet verification, and verified live operations. Once addresses and dates are verified, link the corresponding transaction, code version, and network.

Reference: Verification of Reproducible Solana Builds