Wallet, Fund Flow & Settlement Architecture

Purpose

This document defines **how money moves inside Atlantis**, how user funds are protected, how transactions are executed via third-party partners, and how balances are represented using a **global-standard wallet & ledger system**. This is written to meet expectations of banks, regulators, auditors, and senior engineers.

Design Principles

- User funds are always **segregated** from Atlantis operating funds
- Atlantis never directly holds financial instruments
- All transactions are **ledger-backed (double-entry)**
- Every taka movement is traceable
- Real-time balance ≠ settled balance

Wallet Architecture Overview

Wallet Types

1. User Wallet (BDT)

- Virtual wallet per user
- Holds available, blocked, and pending balances
- Backed by partner escrow account

2. Escrow Wallet (Partner Bank)

- Real bank account
- Holds pooled user funds
- Operated by licensed bank / MFS

3. Settlement Wallet (Internal Ledger)

- Logical wallet for settlement tracking
- No real money held

4. Revenue Wallet (Atlantis)

- Holds platform fees
- Separate from user funds

Wallet Balance Structure

Each user wallet shows:

- **Available Balance** (can invest or withdraw)
- **Blocked Balance** (investment in progress)
- **Pending Balance** (awaiting settlement)

Add Money Flow (Top-Up)

Step-by-Step

1. User selects “Add Money”
2. Chooses payment method (Bank, MFS, Card)
3. Redirected to partner payment gateway
4. Partner confirms payment via webhook

5. Ledger entry created
6. User wallet updated (Available Balance)

Ledger Entries

- Debit: Partner Escrow Account
- Credit: User Wallet Available Balance

Invest Flow (Buy Instrument)

Step-by-Step

1. User selects instrument
2. Enters investment amount
3. AI suitability check
4. User confirms investment
5. Amount moved to Blocked Balance
6. Buy order sent to partner API
7. Partner confirms execution
8. Settlement initiated

Ledger Entries

- Debit: User Available Balance
- Credit: User Blocked Balance

Settlement Flow

T+0 / T+1 / T+2 Handling

- Settlement timelines vary by instrument
- Pending balance shown separately

Post-Settlement

- Blocked → Invested
- Holding created in portfolio

Holdings & Portfolio Representation

Each holding contains:

- Instrument ID
- Issuer
- Purchase price
- Units
- Lock-in period
- Current valuation (AI + market)

Sell / Exit Flow

Step-by-Step

1. User selects holding
2. Chooses Sell
3. AI exit timing suggestion
4. Sell order sent to partner
5. Funds marked Pending
6. Settlement confirmation

7. Wallet credited

Ledger Entries

- Debit: Instrument Settlement Wallet
- Credit: User Available Balance

Withdraw Flow

Step-by-Step

1. User initiates withdrawal
2. Balance availability check
3. Compliance & fraud check
4. Partner bank transfer initiated
5. Wallet updated

Failure & Reversal Handling

Scenarios

- API timeout
- Partial execution
- Market closed

Rules

- No silent failures
- Automatic reversals
- User notified

Reconciliation & Audit

- Daily reconciliation with partners
- Ledger vs bank balance checks
- Immutable transaction logs

Security & Controls

- Role-based access
- Transaction signing
- Rate limiting
- AML monitoring