## Blueprint

integration layer

kafka based

**External Tools** 

**HSM** 

MPC

Solidity

KOTLIN

**Transaction Node** 

transaction designer

orchestration

validation

execution

contract environment

contract contract

**SQL DataBase** 

**Network Services** 

governance

matcher

dispatcher

uniqueness

proof of transactions

Blockchain

RPO=0 DB

**Balance Node --**

asset federation

double spend

Blockchain

RPO=0 DB

**ABSTRACT** 

**Data** 

Layer

Adoption of DeFi, Central Bank Digital Currency (CBDC), and Tokenized Multiassets necessitates new security architectures for Regulated Tokenized Multiasset Networks (RTMNs).

Traditional approaches are insufficient for the distributed nature of decentralized finance, and **Zero Trust** models face compliance and efficiency challenges in financial networks.

This paper proposes a novel framework for diverse use cases, guarantees composability, atomicity, settlement finality, and enforced compartmentalization, sharing minimal necessary information, enabling privacy-by-design.

> A detailed analysis of the framework's application in RTMNs is presented, evaluating its characteristics in the context of tokenizing government securities.

**Ptah** Illustrative graphic,

part of graphic material for the BBChain Ptah framework - 2025