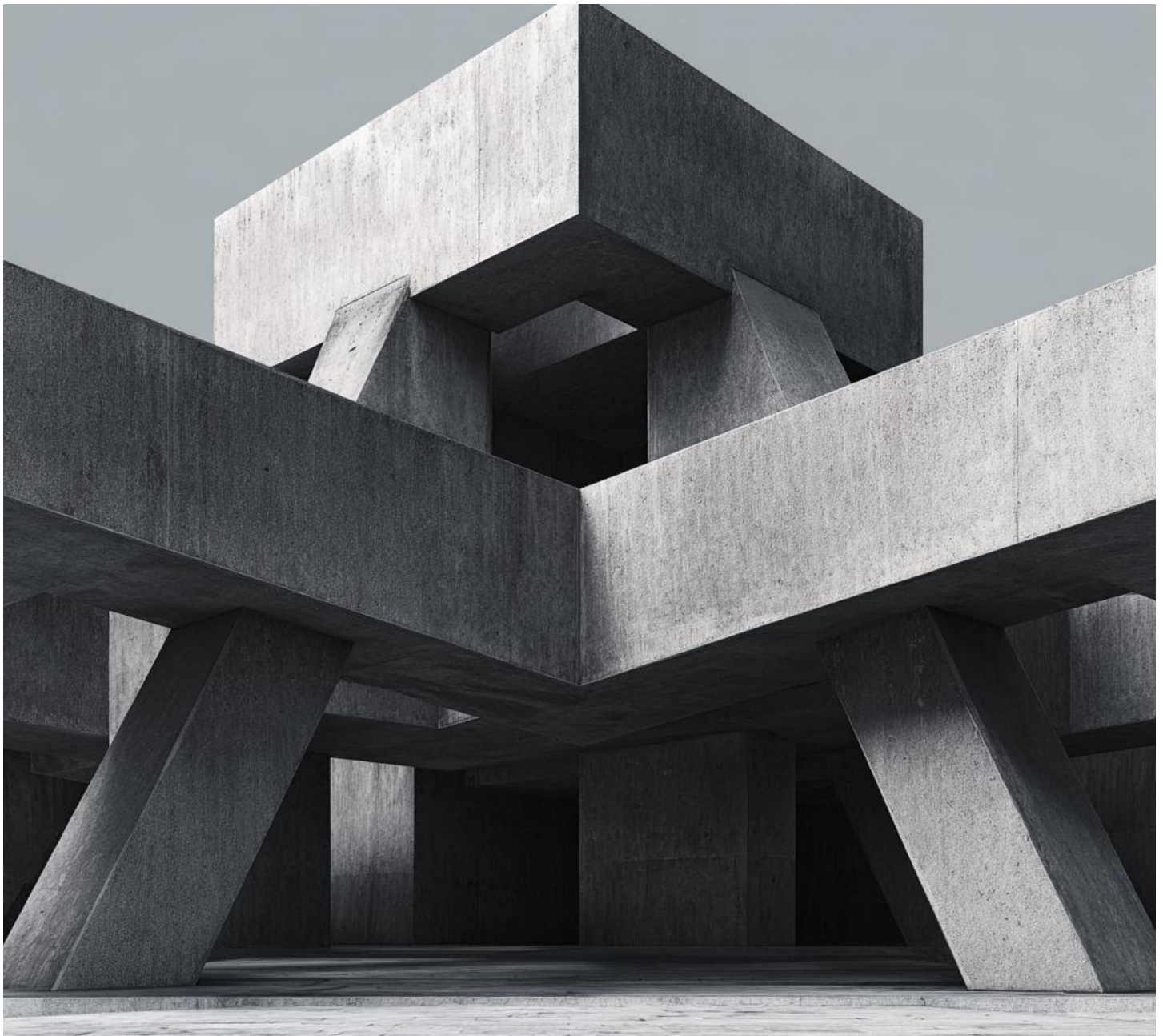




FREEPORT MARKETS

DIGITAL ASSET TAXONOMY

FREEPORT MARKETS, INC.

PREPARED BY LIHONG WANG

1. INTRODUCTION

1.1 WHY A DEDICATED TAXONOMY

Digital assets now span payments networks, computing platforms, market infrastructures, entertainment rails, and claims on off-chain cash flows. For allocators and product teams, a coherent taxonomy isn't cosmetic—it's the connective tissue between a rapidly shifting technology stack and disciplined portfolio decisions. A good taxonomy must: (1) Illuminate where value originates (usage, settlement, or services). (2) Be mutually exclusive at each level so attribution isn't double-counted. (3) Permit evolution of assets and categories as protocols and business models pivot. (4) Apply universally across the investable crypto universe without carve-outs.

1.2 PURPOSE & GOALS

We organize the universe by what is being adopted—i.e., the functions users actually consume—rather than by issuance mechanics, consensus algorithms, or token rights alone. A circular, multi-ring layout is conceptually useful here: at the core sits Settlement, around it Infrastructure, and at the edge Applications. This mental model emphasizes that most user experiences are ultimately secured by settlement layers and enabled by shared services, but accessed at the application player.

2. DESIGN PRINCIPLES

2.1 MUTUAL EXCLUSIVITY

At any evaluation point, a token receives one primary classification. If a protocol spans multiple functions, we assign it to the function that best explains realized usage and revenue today—not the hypothetical roadmap. This avoids attribution bleed and keeps peer groups comparable.

2.2 EVOLUTION

Protocols evolve. Our framework supports reclassification when usage migrates materially (e.g., an L2 that began as a general execution layer but becomes specialized for a vertical). Reclassifications are discrete events to preserve clean time-series analytics.

2.3 UNIVERSALITY

The taxonomy covers the entire investable digital-asset set. New segments can be added without disturbing the higher-level logic. Universality allows consistent benchmarking and factor testing across cycles.

3. TAXONOMY OVERVIEW

3.1 SETTLEMENT LAYER

Base ledgers that finalize value transfer and set security/performance constraints. We separate Programmable (Execution Platform & Scaling) vs. Non-Programmable (Currencies & Store of Value) because their economic drivers diverge: smart-contract platforms monetize compute and blockspace demand; non-programmable chains monetize monetary premia and payments.

3.2 INFRASTRUCTURE LAYER

Shared infrastructure that developers and institutions consume to build and operate applications. We group Infrastructure & Utility layers together because the sector is compact and the buyer/problem set overlaps (data, identity, oracles, compute, security, dev tooling, and cross-chain).

3.3 APPLICATIONS LAYER

What end users and businesses actually do: finance, culture/entertainment, industry/resource networks, etc. Here we intentionally separate Decentralized Finance and Centralized Finance to reflect their distinct philosophies, risk surfaces, and revenue drivers. We also add Stablecoins and Tokenized Real-World Assets (tRWA)—both derive value primarily from off-chain references rather than endogenous crypto activity.

3.3 EXAMPLES

CURRENCIES & STORE OF VALUE:	BTC
EXECUTION PLATFORM & SCALING:	ETH, MNT, TON
INFRASTRUCTURE & INTEROPERABILITY:	LINK, WLD, ENS
DECENTRALIZED FINANCE (DEFI):	AAVE, UNI, ENA
CENTRALIZED FINANCE (CEFI):	XRP, BNB, OKB
CULTURE & ENTERTAINMENT:	SHIB, IMX, FLOKI
DEPIN & RESOURCE NETWORKS:	TAO, NEAR, RENDER
STABLECOINS:	USDC, USDT, USDE
TOKENIZED REAL-WORLD ASSETS (RWA):	XAUT, SPYX, SLVON

4. SETTLEMENT LAYER

4.1 PROGRAMMABLE SETTLEMENT (SMART-CONTRACT PLATFORMS)

Definition: Ledgers that natively execute user-defined code (Turing-complete VM or equivalent), enabling autonomous asset logic. Economic value accrues through blockspace scarcity, MEV capture dynamics, sequencer revenues (L2s), and ecosystem growth. Inclusions: General-purpose L1s/L2s, appchains, specialized smart-contract platforms. What to measure: Gas/fee revenue, blockspace utilization, active developers, TVL hosted, settlement guarantees to L2s, and L2 take rates. Why separate? Their unit economics correlate with compute demand, not with monetary premia.

4.2 NON-PROGRAMMABLE SETTLEMENT

Definition: Ledgers without general smart-contract capability where the primary function is value transfer, monetary settlement, and in some cases privacy-preserving payments. Drivers: Security budgets and issuance policy, liquidity depth, merchant rails, and macro narratives (digital gold, censorship resistance). Why separate? Their value is primarily a function of monetary use and scarcity, not hosted compute.

5. INFRASTRUCTURE LAYER

5.1 INFRASTRUCTURE & INTEROPERABILITY

Definition: Horizontal services that developers and institutions consume to build, secure, and connect applications and chains. We group these because buyers, procurement cycles, and SLAs overlap; splitting adds noise without improving attribution.

5.2 REPRESENTATIVE SEGMENTS

Interoperability & Bridging: Cross-chain messaging, asset bridges, shared security. Data & Indexing: On-chain and off-chain data pipelines, subgraphs, analytics, broadcast networks. Oracles: Price, time, and real-world events; increasingly generalized compute at input/output boundaries. Identity & Credentials: Decentralized identifiers, attestations, KYC primitives. Security & Verification: ZK/STARK proof systems, auditors-in-code, restaking and activeness slashing, monitoring. Dev Tooling & SDKs: Wallet SDKs, contract kits, testing/staging infra, ops and observability.

6. APPLICATION LAYER

6.1 DECENTRALIZED FINANCE (DEFI)

Scope: Protocols that deliver financial services without centralized custody or discretionary control, with rules enforced on-chain. Exchanges & Aggregators (AMMs, RFQ, intent-based, cross-venue routing). Derivatives (perps, options, vaults). Borrow/Lend & Credit Primitives (over-collateralized, credit delegation, under-collateralized with on-chain identity). Asset & Wealth Management (automated strategies, structured products, index vaults). Payments & Settlement Utilities used by DeFi (payment hubs servicing DeFi flows). Why separate from CeFi? Governance, custody, and failure are fundamentally different (smart-contract risk vs. credit/operational risk).

6.2 CENTRALIZED FINANCE (CEFI)

Scope: Custodial or discretionary financial services where a legal entity intermediates user assets, even if the entity integrates blockchain rails. Exchanges & Brokerages (spot/derivatives venues, prime services). Centralized Lenders & Yield Platforms (with on/off-chain collateral). Payment Processors & Gateways (fiat <> crypto ramps, merchant acquiring). Why separate from DeFi? Same user jobs-to-be-done as DeFi but different risk, regulation, and revenue capture. Separating improves risk budgeting, regulatory mapping, and contagion analysis.

6.3 CULTURE & ENTERTAINMENT

Scope: Protocols and networks where the primary product is culture—IP, social graphs, creator economies, and game state. NFT Platforms & Markets (minting, royalties, curation). Gaming & Metaverse (on-chain state, asset ownership, play/move-to-earn mechanics). Media (streaming, micropayments, provenance). Social (decentralized social graphs, fan tokens). Meme Assets (community-native assets whose demand is primarily narrative/coordination). These systems monetize attention and IP rights more than financial primitives; their cycles and KPIs differ (DAUs, creator revenue, secondary fee throughput).

6.3 DEPIN & RESOURCE NETWORKS

Scope: “Industry” activity re-cast for crypto-native coordination: Decentralized Physical Infrastructure Networks that provision real-world resources—compute, storage, bandwidth, mobility, energy, sensor data—via tokenized incentives. Compute/Storage/Networking (GPU/CPU markets, content storage, bandwidth). Energy & Carbon (metering, microgrids, credit registries). Mobility & Logistics (location proofs, delivery networks). Marketplace Rails (matching, slashing, reputation). We replace generic “Industry” with DePIN to emphasize that what’s being coordinated isn’t a corporate P&L—it’s supply-side provisioning by many small actors, where tokens price work, collateralize service quality, and allocate rewards.

7. REAL WORLD ASSETS

7.1 STABLECOINSTOKENIZED REAL-WORLD ASSETS

Scope: Pegged assets whose target value references fiat or other off-chain indices; value is not primarily endogenous to crypto market cycles. Fiat-Backed (Custodial) – bank deposits, T-bills, MMFs with attested reserves. Crypto-Collateralized – over-collateralized on-chain positions. Hybrid / Programmatic – partially algorithmic stabilization with reserve backstops. Tokenized Cash Equivalent – narrow-purpose stable liabilities (e.g., MM-token wrappers).

7.2 TOKENIZED REAL-WORLD ASSETS

Scope: On-chain claims to off-chain financial or real assets (excluding cash and cash-equivalents), typically with legal wrappers. Public & Private Equity. Private Credit & Structured Finance (SRPs, receivables, securitizations). Real Estate & Infrastructure (equity/debt tokens, revenue-share). Commodities & Vaulted Assets (gold, metals).

8. CLASSIFICATION WORKFLOW

8.1 WHAT WE CLASSIFY

Primary tokens that capture network/protocol economics. Wrapped or bridged representations inherit the classification of the underlying unless the wrapper introduces distinct economics.

8.2 HOW WE DECIDE

Usage-first test. Where do users spend gas/fees? What function explains volume, revenue, or DAU? Functional precedence. If several functions exist, classify by the dominant realized function in the evaluation window. Issuer/Control test (for CeFi vs DeFi). If a legal entity can freeze/reverse or unilaterally set terms, classify as CeFi; if rules are credibly enforced on-chain and control is dispersed, classify as DeFi. Reference-value test. If value primarily references off-chain fiat or assets, consider Stablecoin or tRWA, not DeFi/CeFi. Settlement capability test. If the token is required to pay base fees and participates in consensus, it's Settlement (Programmable or Non-Programmable).

8.3 RECLASSIFICATION

3-month sustained shift in primary usage or revenue mix. Governance or architectural change (e.g., disabling general programmability; moving from custodial to non-custodial). Legal wrapper changes for tRWA or reserve composition changes for stablecoins.

9. USAGE IN FREEPORT PRODUCTS

9.1 DIRECT USAGE

Index design. Sector-pure exposures become straightforward: Execution (throughput beta), Infra (picks-and-shovels beta), DeFi vs. CeFi (governance vs. counterparty risk), Culture (attention/IP beta), Currencies (monetary beta), DePIN (resource supply beta), Stablecoins (plumbing), tRWA (rates/credit). Portfolio construction. The 9-sector map supports risk parity across economic drivers, not just token tickers; cross-sector spreads can be used as regime signals (e.g., Execution-Infra strength vs. Culture drawdowns). Client reporting. Clean attribution by sector plus layer shows where returns came from: settlement, shared services, or end-user demand.

9.2 RESEARCH FRAMEWORK

The split yields cleaner factor models: “throughput beta” (Execution), “plumbing beta” (Stablecoins), “attention/IP beta” (Culture), “resource supply beta” (DePIN), “sovereign-like beta” (Currencies & SoV), and “credit/rates beta” (tRWA). We can assume orthogonality of value drivers after accounting for crypto market beta. Monetary premia (Currencies & SoV) ≠ blockspace/compute rents (Execution). Protocol-enforced finance (DeFi) ≠ firm-enforced finance (CeFi). Cultural demand (Culture) ≠ financial demand (DeFi/CeFi) ≠ infrastructure demand (Infra/Interoperability). Also, off-chain reference value (Stablecoins, tRWA) merits separation from endogenous crypto beta.

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