CrossFund Whitepaper

The Universal Cross-Chain Liquidity & Payment Layer for Web3

Version 2.0

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1. Executive Summary

As the blockchain ecosystem expands into thousands of interconnected networks, liquidity has become fragmented, and user experience (UX) has suffered. Users must navigate complex bridges, manage multiple gas tokens, and endure slow settlement times. Developers struggle to integrate fragmented infrastructure, and merchants face high barriers to accepting crypto payments.

CrossFund is the universal liquidity layer designed to solve these challenges. We provide a seamless, non-custodial infrastructure that enables **any-token-to-any-token swaps** across 300+ blockchains. Whether for individual users, developers building dApps, or merchants accepting payments, CrossFund abstracts away the complexity of chains, bridges, and gas fees.

Powered by the novel **x402 Protocol**—a decentralized payment standard for APIs—and the **$CF token**, CrossFund eliminates the need for centralized API keys, offering a truly permissionless and scalable infrastructure for the future of Web3.

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2. The Problem: The Fragmented Web3 Landscape

2.1. Liquidity Silos

Liquidity is fractured across Layer 1s (Ethereum, Solana, Bitcoin), Layer 2s (Arbitrum, Base, Optimism), and non-EVM chains. Assets on one chain are often inaccessible on another without significant friction.

2.2. The UX Nightmare

For a user to move funds from Chain A to Chain B, they typically need to: 1. Find a bridge. 2. Approve permissions. 3. Pay gas fees on the source chain (often requiring a specific native token). 4. Wait for bridging (minutes to hours). 5. Swap on the destination chain (requiring destination gas tokens).

2.3. Developer Friction

Developers building multi-chain applications must maintain integrations with dozens of bridges, DEX aggregators, and RPC providers. This increases maintenance costs and security risks.

2.4. Merchant Barriers

Merchants want to accept crypto but cannot manage volatility or the complexity of hundreds of different tokens. They need a simple "accept anything, receive stablecoin" solution that existing payment processors fail to provide efficiently across chains.

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3. The Solution: CrossFund Ecosystem

CrossFund unifies the fragmented blockchain landscape into a single, cohesive layer.

3.1. Global Swap Engine

The core of CrossFund is the **Global Swap Engine**, an aggregator of aggregators. It scans decentralized exchanges (DEXs), cross-chain bridges, and liquidity networks in real-time to find the most efficient path for any trade. * **Any-to-Any:** Swap 1M+ tokens across 300+ chains. * **Single-Click:** One signature handles the entire process. * **Instant:** Most swaps settle in under 10 seconds.

3.2. The x402 Protocol: Internet-Native API Payments

CrossFund pioneers the **x402 Protocol**, reviving the HTTP 402 "Payment Required" status code. Instead of relying on centralized API keys (which can be leaked or banned), CrossFund's API is permissionless and paid for per-call using **$CF tokens**. * **No API Keys:** Authentication is handled via crypto signatures. * **Pay-As-You-Go:** Developers and integrators pay a micro-fee (in $CF) for each API call, preventing spam and creating a sustainable economy.

3.3. Merchant Settlement Layer

For commerce, CrossFund acts as an automated clearing house. * **Accept Anything:** Customers pay with Memecoins on Base, ETH on Mainnet, or SOL on Solana. * **Receive Stable:** Merchants receive **USDC on Solana**, automatically converted during the transaction.

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4. Technical Architecture

4.1. The Routing & Aggregation Layer

Our off-chain routing engine continuously monitors liquidity pools across supported chains (EVM, SVM, non-EVM). When a request is made, the engine: 1. Identifies the source and destination assets. 2. Calculates the optimal route (splitting usage across bridges like Wormhole, LayerZero, or liquidity pools like Uniswap, Raydium). 3. Constructs a transaction payload for the user to sign.

4.2. Non-Custodial Security

CrossFund never holds user funds. The architecture is purely non-custodial. * **Atomic Swaps:** Transactions are atomic; if a step fails, the smart contract logic ensures funds are returned to the user. * **Direct Settlement:** Funds move directly from the user's wallet to the liquidity pools and then to the recipient.

4.3. API Integration

The CrossFund API is designed for simplicity: * **Endpoint:** `POST /api/global-swap` * **Input:** Source Chain, Source Token, Destination Chain, Destination Token, Amount. * **Output:** A construct transaction object ready for the user's wallet to sign.

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5. Tokenomics: The $CF Token

The **$CF token** (Solana-based) is the lifeblood of the CrossFund ecosystem. It is not just a governance token; it is a utility token required for the operation of the network.

5.1. Token Utility

- **Global Swap API:** The API is x402-powered and requires $CF fuel for every successful call (currently 100 $CF).
- **Merchant Integration:** Merchants pay transaction fees in $CF or hold $CF for discounted rates.
- **AI Agent Access:** The Global Swap AI Agent requires fees but is free for $CF holders.
- **Governance:** Holders vote on protocol upgrades, new chain integrations, and treasury allocations.
- **Lower Fees:** Holding $CF grants discounts on cross-chain API and swap fees.
- **Staking:** Stake $CF to earn yield from protocol revenue sharing.
- **Premium Access:** Unlock advanced routing features, priority support, and analytics.

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6. Products & Use Cases

6.1. For Developers (B2D)

- **Wallets:** Integrate in-app cross-chain swaps without building backend infrastructure.
- **Games:** Allow players to buy in-game assets using tokens from any chain.
- **DEXs:** Expand token lists to include assets from other networks instantly.

6.2. For Merchants (B2B)

- **E-commerce:** Integrate the "Pay with Crypto" button.
- **SaaS:** Accept subscription payments in crypto with auto-conversion to stablecoins.
- **Treasury Management:** Consolidate corporate funds from multiple chains into a single treasury wallet.

6.3. For Users (B2C)

- **Universal Access:** Buy a Solana NFT using ETH.
- **Asset Consolidation:** dust-sweeping small balances from 10 chains into one main asset.

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7. Roadmap

Q4 2025 (Foundation)

- Foundation & Token Launch
- Global swap directly to $CF
- Global Swap API
- Merchant Payment Processor

Q1 2026 (Expansion)

- CrossFund App
- CF Pay
- Global swap Integration on other dApps
- CrossFund AI Agent Integration
- Governance Platform Launch

Q2 2026 (Ecosystem)

- Developer SDK & Widget
- $CF Utility Expansion
- Loyalty features

Q3 2026 (Scaling)

- Multi-Chain Growth
- Staking & Yield Layer
- Collaborative Growth Programs

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8. Conclusion

CrossFund is not just a bridge; it is the **interoperability standard** for the future of the internet of value. By combining a powerful aggregation engine with a novel economic model (x402), we are building a sustainable, scalable, and user-friendly infrastructure that empowers the next billion users to interact with Web3 seamlessly.

Join us in building the unified future.

Website: https://crossfund.xyz
Docs: https://crossfund.xyz/docs