

Arculate

Multi-Currency Prediction Markets with Native FX Settlement on Arc

Whitepaper, Version 1.0, June 2026, Arc Testnet

Not financial advice. Testnet only.

Abstract

Arculate is a binary prediction market protocol deployed on Arc, Circle's Layer-1 blockchain. It is the first prediction market to support native multi-currency settlement, enabling users to stake USDC on European macro events and receive winnings in EURC within a single on-chain transaction. This is made possible by Arc's StableFX primitive, which handles stablecoin conversion at the protocol layer. Arculate combines an Automated Market Maker pricing model, transparent on-chain resolution, and a minimal 2% fee on winnings only.

1. Introduction

1.1 The Currency Problem in Prediction Markets

Prediction markets are among the most efficient mechanisms for aggregating collective knowledge into probabilistic forecasts. Existing on-chain implementations default to a single settlement currency, almost universally USDC. This creates unnecessary friction: a European trader predicting ECB rate policy must hold USDC, incur conversion costs, and mentally translate outcomes into a foreign denomination. The problem is structural. No existing smart contract platform has native stablecoin FX routing. Arc changes this.

1.2 Why Arc

Arc is Circle's Layer-1 blockchain, built specifically for stablecoin-native applications. It provides three capabilities essential to Arculate:

StableFX: a built-in FX routing layer that converts between USDC and EURC atomically within a single transaction.

Sub-second finality: positions confirm in under one second, enabling a responsive trading experience.

Stablecoin gas fees: users pay gas in USDC, eliminating the need to hold volatile ETH.

2. Protocol Design

2.1 Market Structure

Each Arculate market is a binary outcome contract. Before opening, every market specifies:

The resolution question (e.g. Will the Fed hold rates at the June 2026 FOMC meeting?)

The settlement currency (USDC for US macro, EURC for European macro)

The resolution source (Chainlink price feed for crypto; admin trigger for macro and politics)

The resolution deadline

2.2 AMM Pricing

Arculate uses a Constant Product Market Maker to price outcome tokens. Each market initialises with equal liquidity on both sides at 50/50. As capital flows to YES or NO, prices adjust automatically according to the invariant $x \times y = k$, where x and y represent the liquidity on each side. The current price of a YES token equals the market's implied probability of a YES outcome. Prices are always transparent and verifiable on-chain.

2.3 FX Settlement via StableFX

When a user stakes USDC on a EURC-denominated market, the contract records the USDC position. At resolution, if the user wins, Arc's StableFX layer converts the USDC payout to EURC at the prevailing spot rate in the same transaction. The user receives EURC directly in their wallet with no manual swap required.

Step	Action	Layer
1	User submits 100 USDC on a EURC market	Arculate contract
2	Position recorded in USDC	Arculate contract
3	Market resolves YES	Resolution oracle
4	Payout calculated in USDC	Arculate contract
5	StableFX converts USDC to EURC at spot rate	Arc StableFX
6	135.88 EURC sent to user wallet	Arc blockchain

Table 1: FX settlement transaction flow (example)

3. Resolution

3.1 Crypto Markets

Crypto price markets use Chainlink decentralised price feeds as resolution oracles. When a market's deadline passes, the contract queries the Chainlink feed and resolves automatically on-chain. No human intervention is required. The resolution transaction hash is recorded and publicly verifiable on arcscan.app.

3.2 Macro and Politics Markets

Macro markets and politics markets are resolved manually by the Arculate admin based on official announcements from the relevant institution. The admin triggers a resolution transaction referencing the official source. All resolution transactions are recorded on-chain and independently auditable.

3.3 Dispute Mechanism

Version 1.0 does not include an on-chain dispute mechanism. The admin is the sole resolution authority for non-crypto markets. A decentralised resolution layer using an optimistic oracle is planned for a future version.

4. Fee Structure

Fee Type	Amount	When Charged
Entry fee	None	Never
Losing fee	None	Never
Winning fee	2% of net profit	At resolution, on winners only
Gas fee	Negligible USDC	Per transaction

Table 2: Protocol fee structure

The 2% winning fee is the only revenue mechanism. It is applied to net profit, not gross payout. Fees accumulate in the protocol treasury and will be governed by token holders in a future version.

5. Market Categories

Category	Currency	Resolution	Examples
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Macro	USDC / EURC	Admin (official announcements)	Fed, ECB, BOJ, BoE rate decisions
Crypto	USDC	Chainlink price feeds	BTC, ETH price targets
Politics	USDC	Admin (verified news sources)	G7 meetings, geopolitical events

Table 3: Market categories and their properties

6. Roadmap

- **Completed:** Arc testnet launch with USDC and EURC markets
- **In Progress:** Circle Developer Grant application
- **Planned:** Arc mainnet launch with expanded currency support
- **Planned:** USDT, PYUSD, and GBPC markets
- **Future:** Decentralised resolution via optimistic oracle
- **Future:** Protocol governance and fee distribution

7. Risks and Limitations

Centralised resolution

Macro and politics markets rely on admin resolution. A decentralised oracle layer is planned.

Smart contract risk

Arculate contracts have not been independently audited at v1.0. Users should treat testnet funds as experimental.

Liquidity risk

Low liquidity markets may exhibit high slippage. Large positions move prices significantly under the AMM model.

Regulatory risk

Prediction markets exist in a complex regulatory environment. Arculate is a testnet product and does not constitute a financial service.

FX rate risk

USDC/EURC conversion rates fluctuate. The rate used at resolution is the prevailing spot rate, which may differ from the rate at the time of staking.

8. Conclusion

Arculate demonstrates that native multi-currency prediction markets are achievable today on Arc. By combining an AMM pricing model with Arc's StableFX settlement layer, Arculate eliminates the currency friction that has historically limited prediction markets to a dollar-denominated user base. European traders can now predict European events in their native currency. US traders keep their USDC. The

market settles in the right currency automatically.

Arculate is live on Arc testnet. The contracts are functional, the FX settlement works, and three live markets are open for predictions today.

arcuate.markets Built on Arc Powered by Circle Version 1.0 June 2026
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