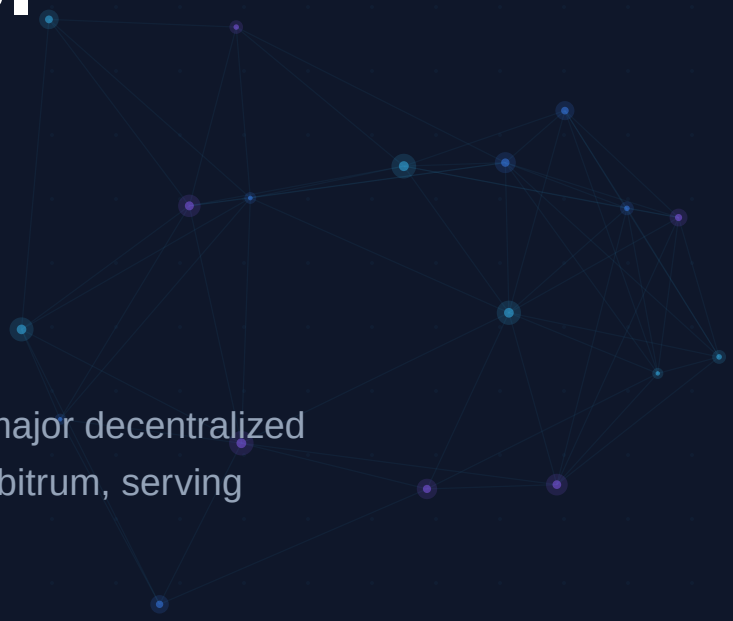
CASE STUDY

DEX Protocol Subgraph



Client: Example Protocol

High-performance subgraph for a major decentralized exchange across Ethereum and Arbitrum, serving 500M+ queries with 99.9% uptime.

Subgraph | DeFi | Ethereum | Arbitrum

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DATA NEXUS

data.nexus

500M+	6 hrs	99.9%
QUERIES SERVED	SYNC TIME	UPTIME

Challenge

The protocol needed real-time trading data across Ethereum and Arbitrum with sub-second query response times for their frontend application.

Their existing indexing solution was unreliable, with frequent desync events causing stale data to surface in the trading UI — directly impacting user trust and trade execution accuracy.

Solution

We designed a multi-chain subgraph architecture with optimized AssemblyScript mapping handlers tailored to the protocol's factory-pool-swap event model.

- Custom schema design with denormalized fields for high-frequency query patterns
- Optimized event handlers reducing indexing time from 3 weeks to 6 hours
- Deployed to The Graph Network's decentralized service for censorship resistance
- Implemented grafting strategy for seamless contract migration support

Results

- 500M+ queries served since deployment with zero downtime events
- 6-hour initial sync time — down from 3 weeks on the legacy solution
- 99.9% uptime across both Ethereum and Arbitrum chains
- Sub-200ms average query response time for complex trading pair lookups