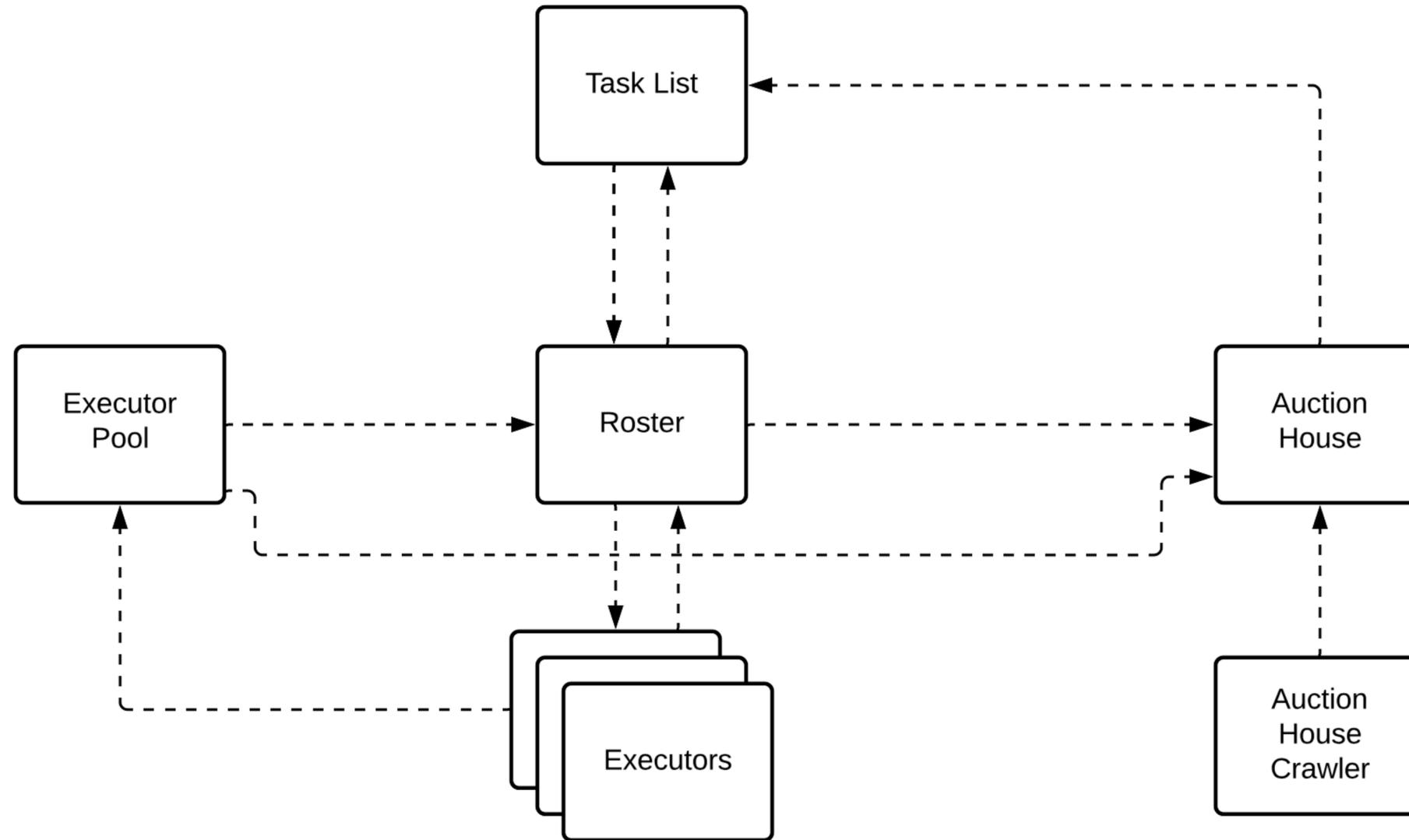# TAPAS Demo

Advanced Software and Systems Engineering

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Architecture

Overview

Architecture
Dynamic Quantum Coupling

- **Communication**

  - Asynchronous

- **Consistency**

  - Eventual - via Event-based Synchronisation

- **Coordination**

  - Choreographed - Front Controller Pattern

Architecture
Data ownership and access

- **Data Ownership**

  - Single Ownership

- **Data access**

  - Request-based Data Access

Architecture
Code sharing

- Two shared libraries

  - Common library

  - Executor Base library

Testing
Overview of results

- Performance Tests with JMeter

  - 9 different tests, each test consisted of one GET and one POST request

  - Auction House as a bottleneck

  - Server Issues

- Chaos Tests with ChaosMonkey

  - Exceptions, kill, latency, memory

Testing
Takeaways

- Testing highlighted the issues with synchronous communication

  - Asynchronous communication would improve fault tolerance as well as responsiveness

- Overall, the system worked well under both the performance and the chaos tests

Demo

Q&A