An analysis of the data in the Crypto Exchange Attack Review table [1].

Attack methods fall into two large categories:

Internal

These are exploits of things under the developer and business' control (codebase weaknesses, social engineering) and the solutions should be rigorous testing, strict policy adhesion and design and development good practices.

- Rigorous testing
  - Automated penetration testing
  - Simulate attacks
- Strict Policy Adhesion
  - Cold/Hot Wallet split
  - Regulate access to system and funds
  - Change passwords / keys periodically
- Design and development good practices
  - Two-factor Authentication
  - Isolate internal services
    - Close unused ports
    - Only necessary public ports
  - Secure communication (ssl, tunneling)
  - State backups (write-through)
  - Encrypt database
  - Encrypt hot wallets
  - Periodic system check / migration / antivirus

Examples:

- Wallet hack
- Risk Engine State manipulation
- Database injection
- Man in the Middle (users, blockchain)
- Social Engineering (staff)
- Malware

External

These have to do with parts of the system that the company does not control (users and the blockchain). Solutions here are to:

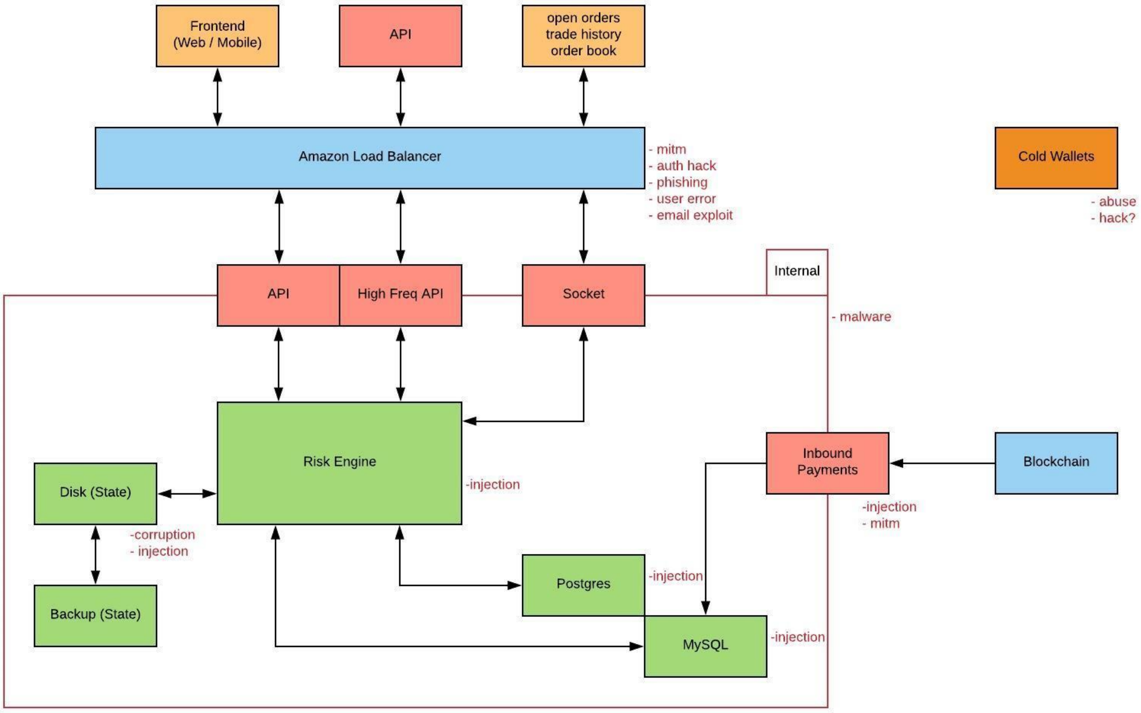
- Set and inform users of security policies
- Force users to follow policy as much as possible
  - Enforce periodic password change

  - Mandatory two-factor
  - Disallow insecure email services from joining
- Shutdown when blockchain vulnerability discovered
- Have a system in place that detects anomalous behavior
  - Attack detection
  - Significant user geoposition change
  - Inactivity
  - Selling / buying at large difference than market value
  - Spikes and surges
- Be able to suspend transactions discriminatorily
  - Admin interface
- Track and log all requests
- Track inbound and outbound transactions / wallets

Examples:

- Social Engineering
- Phishing
- User Error
- Malware
- Connected System Weakness
  - Password recovery
  - Authentication

System Diagram:



[1] Spreadsheet: https://www.modulusglobal.com/media/crypto-exchange-attack-review.xlsx