



Harvard John A. Paulson
School of Engineering
and Applied Sciences

PPAPD — P2P Ascending Price Distributed Auction

Tao Lin, Gary Ma

CS 236 Presentation

Centralized Online Auction House have drawbacks

- Auction houses have more power and control over sellers
- Potential fraudulent bidding activities from the auction houses



Sotheby's
INTERNATIONAL REALTY



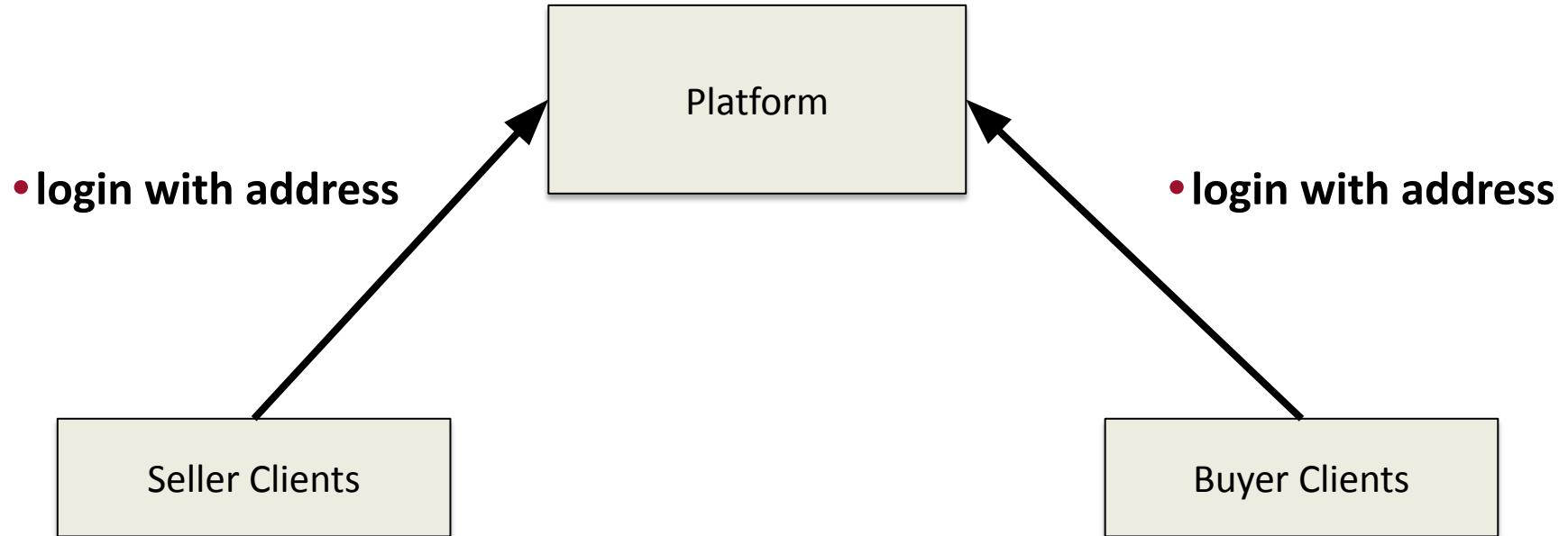
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PPAPD — P2P Ascending Price Distributed Auction

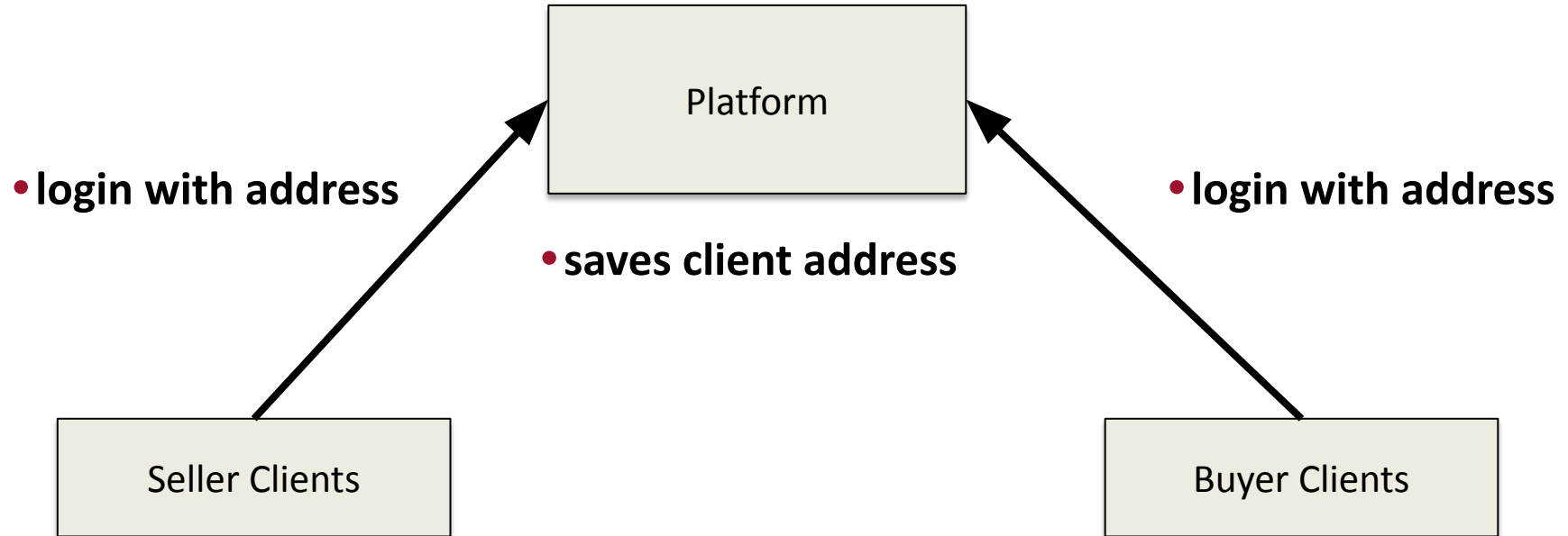
- **Format:** Continuous Ascending Price Auction
- **Participant:** Every user can sell and buy
- **Owner:** sellers runs its auction
- **Record:** Platform maintains Fault tolerance and redundancy



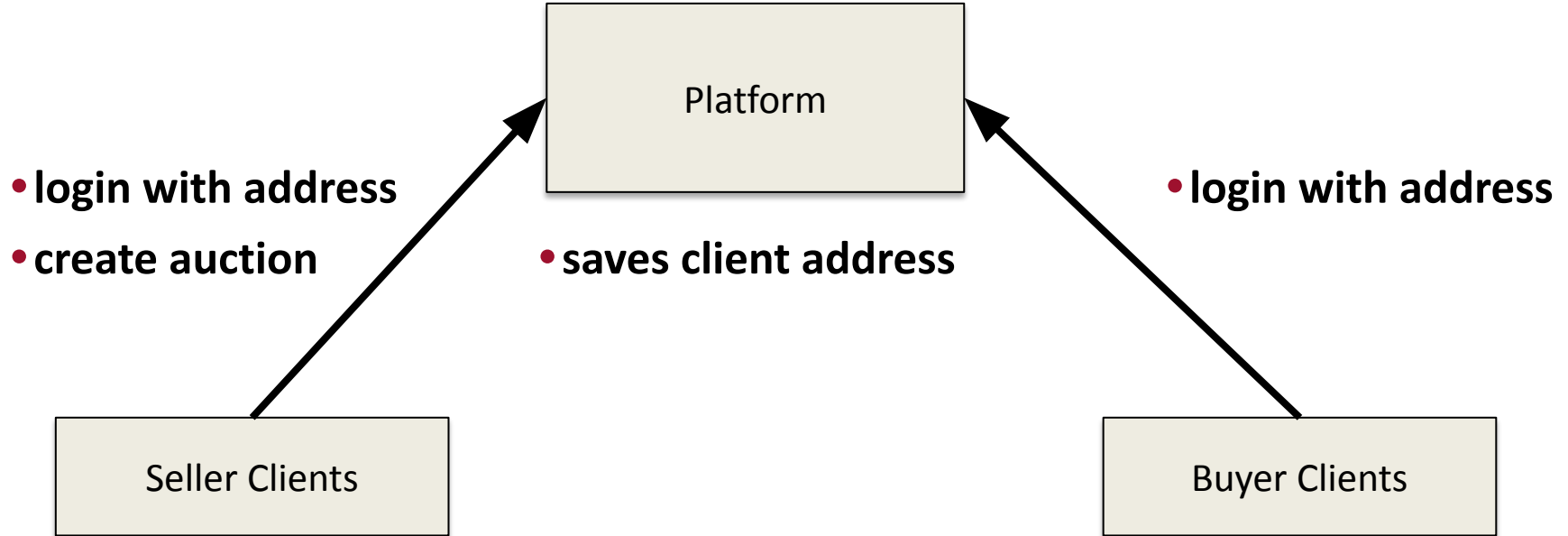
PPAPD — before auction starts



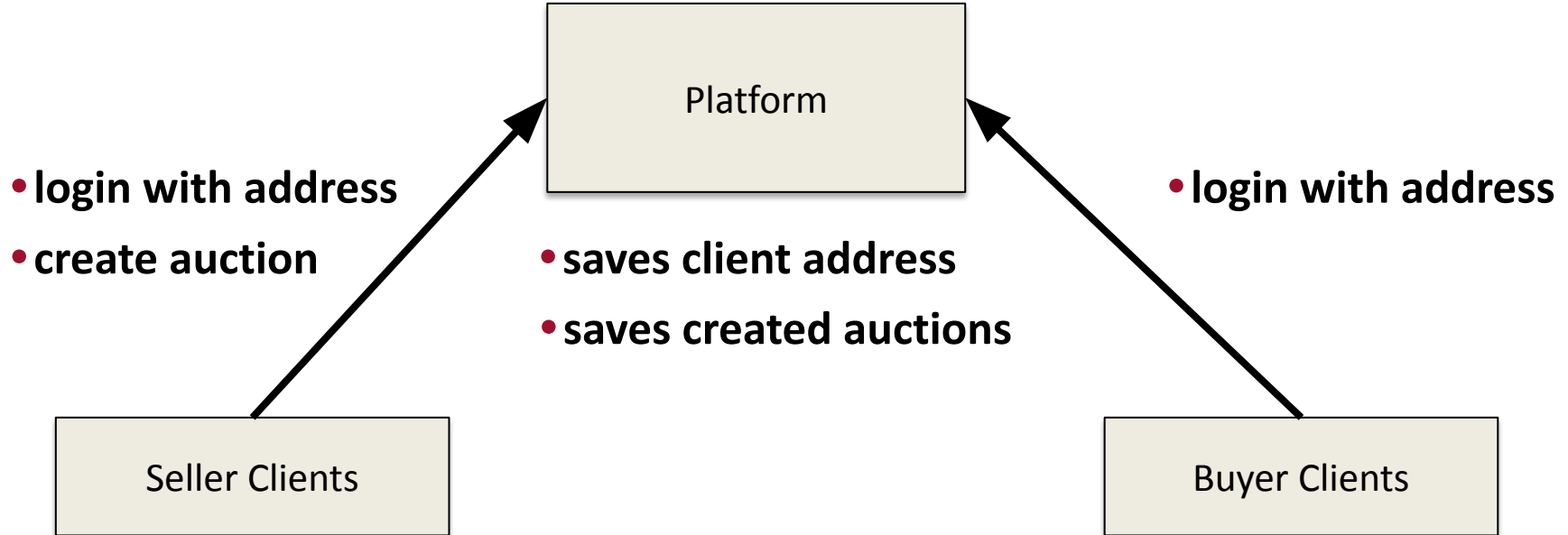
PPAPD — before auction starts



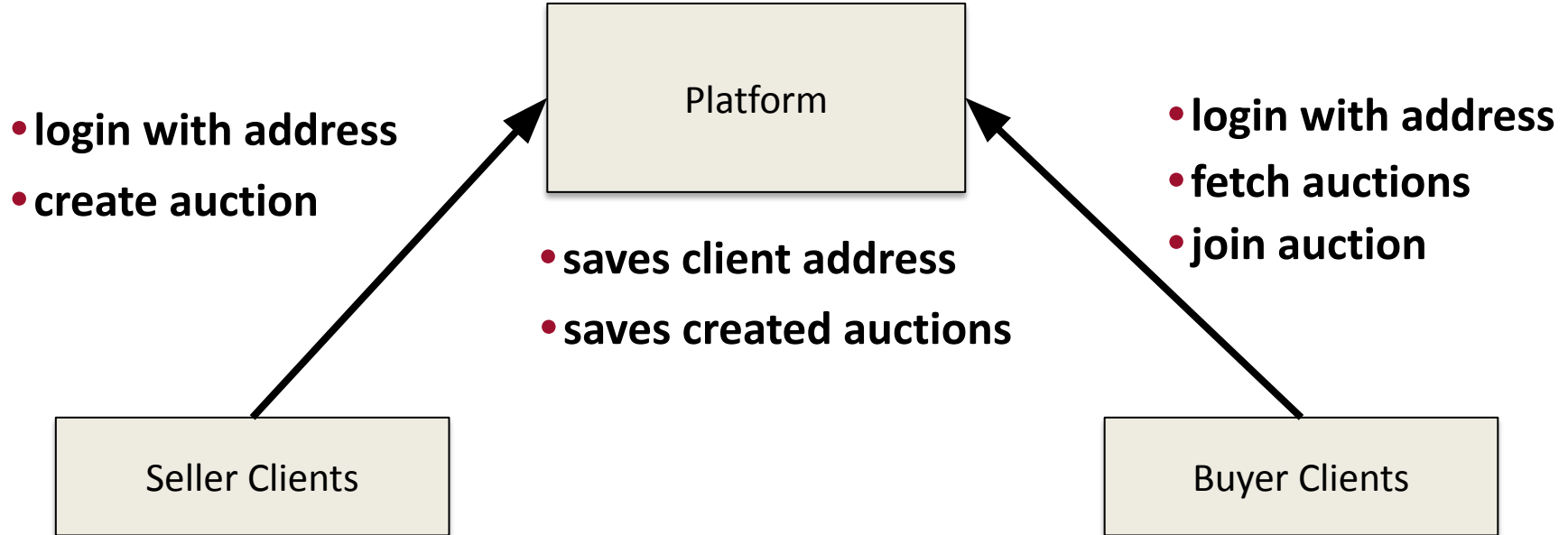
PPAPD — before auction starts



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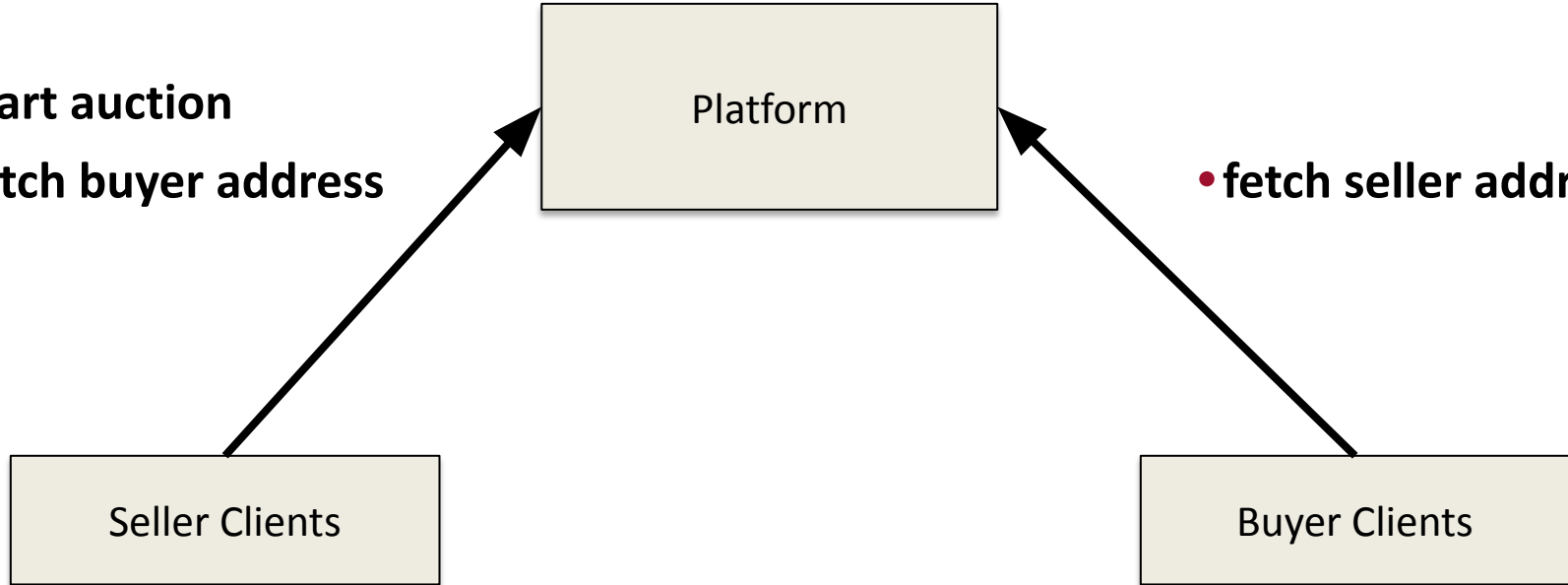


PPAPD — before auction starts



PPAPD — when auction starts

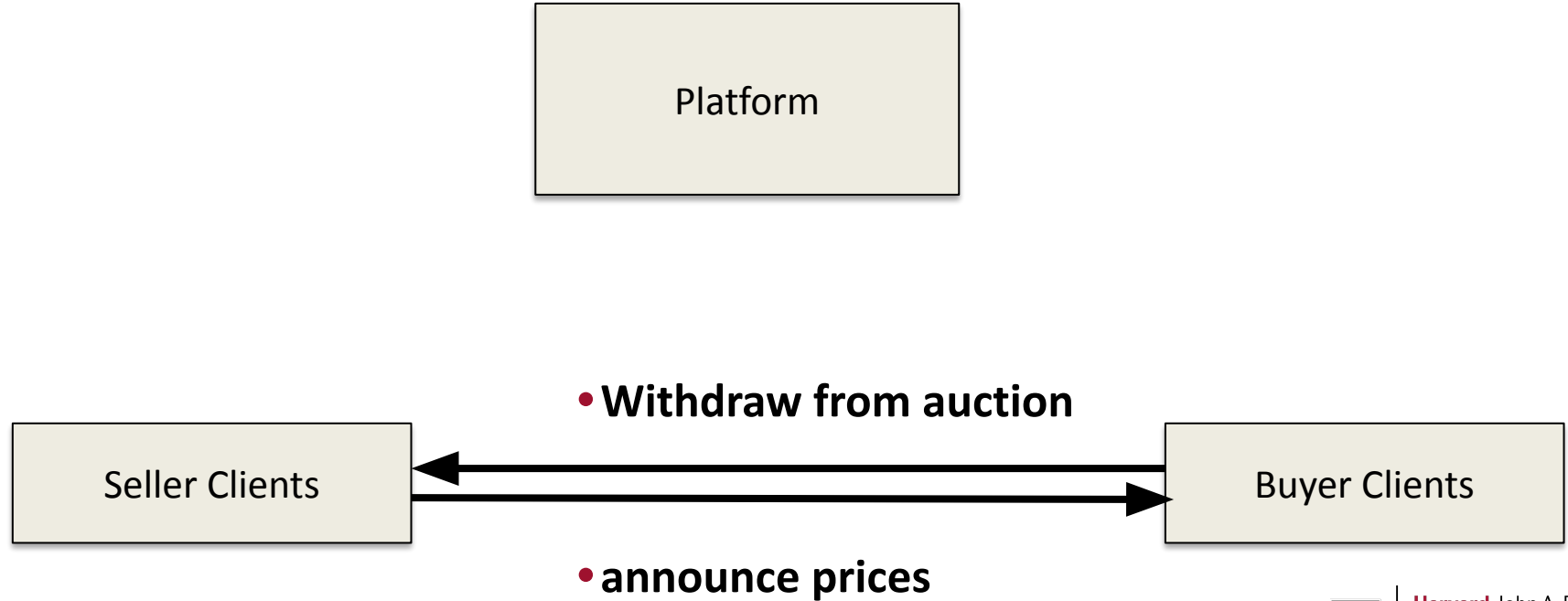
- start auction
- fetch buyer address



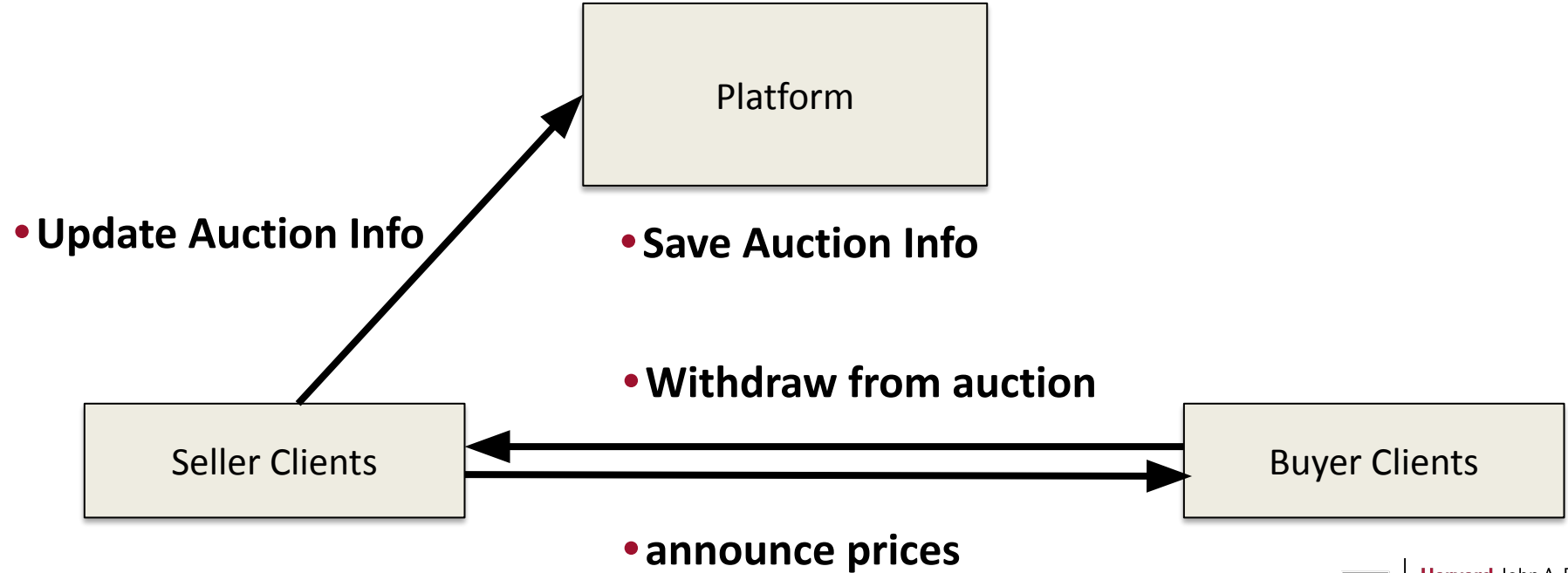
- fetch seller address



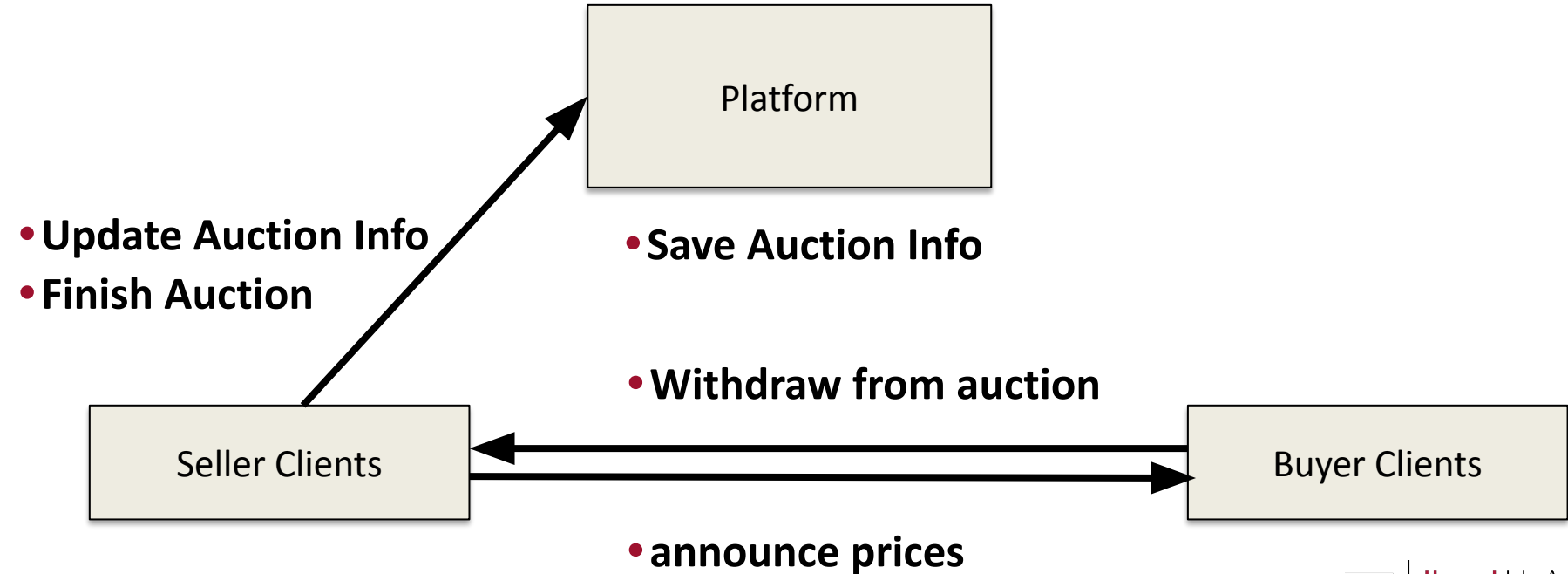
PPAPD — during auction



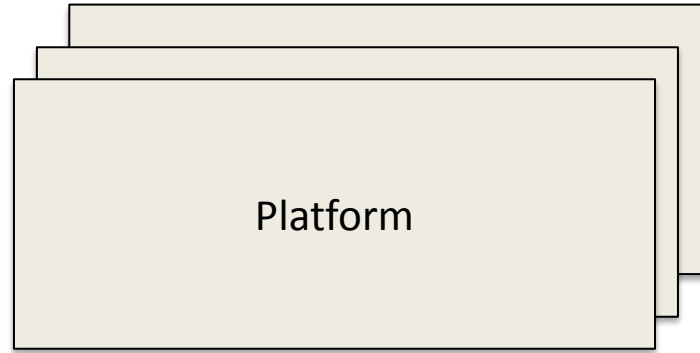
PPAPD — during auction



PPAPD — during and finishing auction



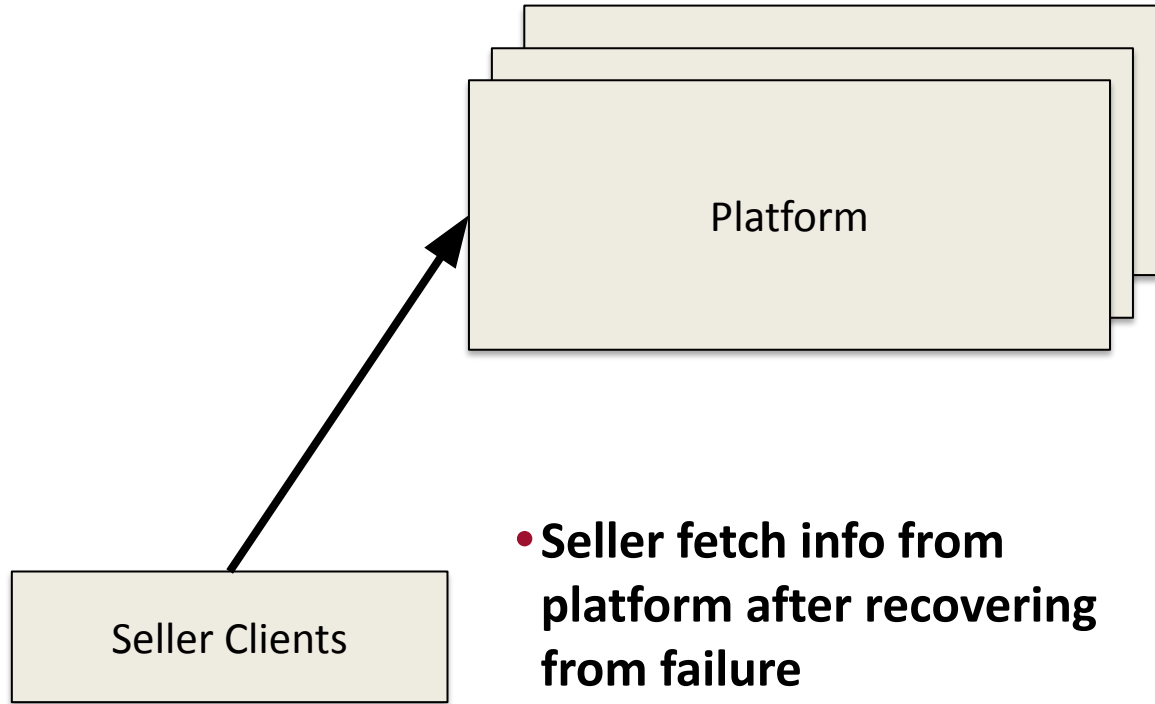
PPAPD — Redundancy and Fault Tolerance



- Implements State-Machine Rafts model



PPAPD — Redundancy and Fault Tolerance



- Seller fetch info from platform after recovering from failure

- Implements State-Machine Rafts model

