

1

Unstructured P2P networks

Unstructured

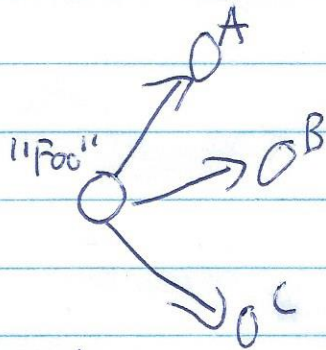
Graph types

- Random
- Power-law
 - Few high capacity peers
 - Many low capacity peers
- Ex: Gnutella

Searching

- Flooding
 - TTL
 - id for duplicate detecting
 - Gnutella
 - $TTL = S \Rightarrow \sim 75\%$ - duplicates
- ~~Fast~~ Expanding ring
 - increasing TTL
 - good ^{for} highly replicated resources
 - bad if resource not found
- Random walker
 - high TTL
 - higher latency
 - fewer messages
 - adaption
 - K walker
 - checkback (stop search if x results found)
 - State (send walker to neighbour who have not seen before)
 - Direct reply / backtracing

- APS



"Foo"	
A	33
B	33
C	34

- Backtracing with result to update probabilities
- optimistic vs pessimistic
 - Can use previous results (S-~~AP~~ APS)
- W-aps
 - Favor ~~more~~ results closer to peer
- higher success rates
- more traffic

Gie

~~Exploit different capacities~~

Peers are not equal in capacity

- Connect to high capacity peers
- Biased walker: route to high capacity peers
- One hop index replication
- Flow control (hand out tokens based on capacity)

Idea: route to high capacity with much knowledge