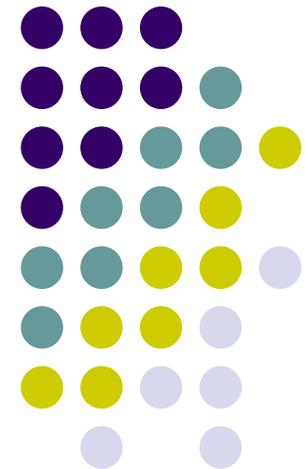


# P2P CDN using PPSP and RELOAD

Draft-li-ppsp-p2p-cdn-00.txt

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# P2P+CDN for streaming



- **CDN**
  - Improve QoS
  - Reduce backbone traffic and link overhead
- **P2P**
  - User node uploading content can reduce server load
  - Using P2P among servers to improve reliability, scalability and reduce deployment/maintenance overhead

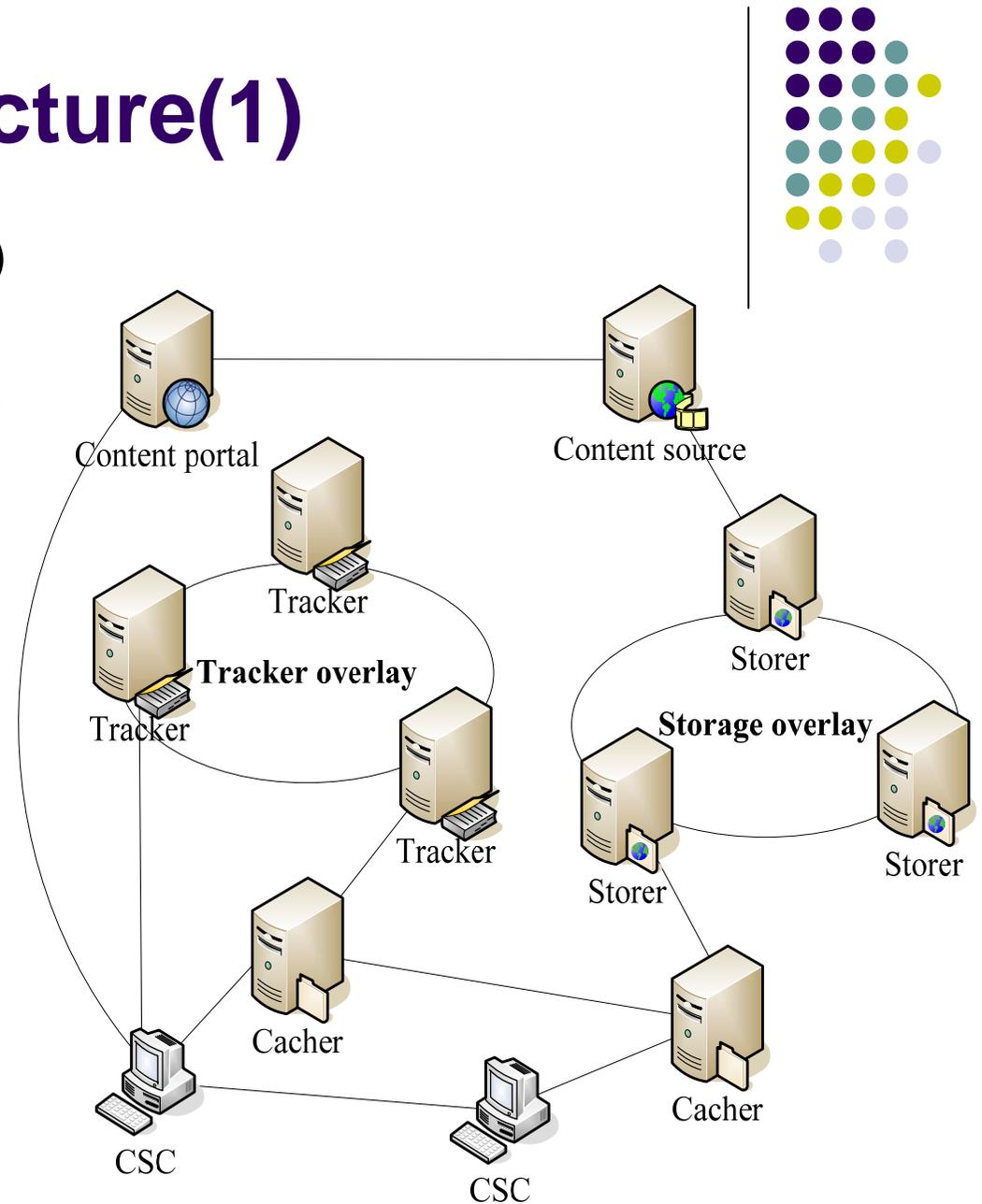
# Protocols

- PPSP for signaling
- RELOAD for content and content location storing



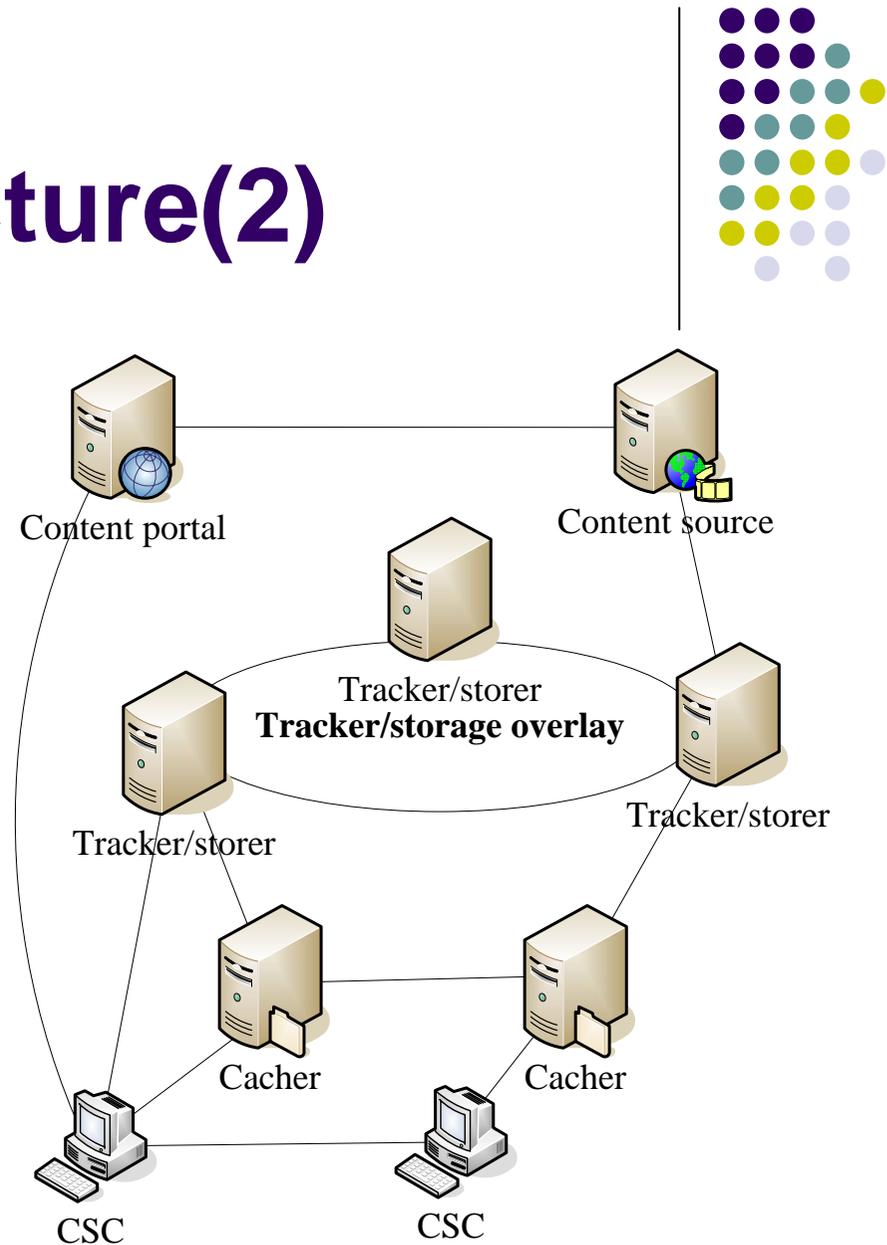
# P2P CDN architecture(1)

- CSC (Content Sharing Client) downloads shared contents.
- content portal provides CSCs shared content list.
- content source server publishes shared content.
- Two RELOAD overlays
  - Tracker overlay
  - Storage overlay
- Cacher downloads and caches contents for nearby CSCs.

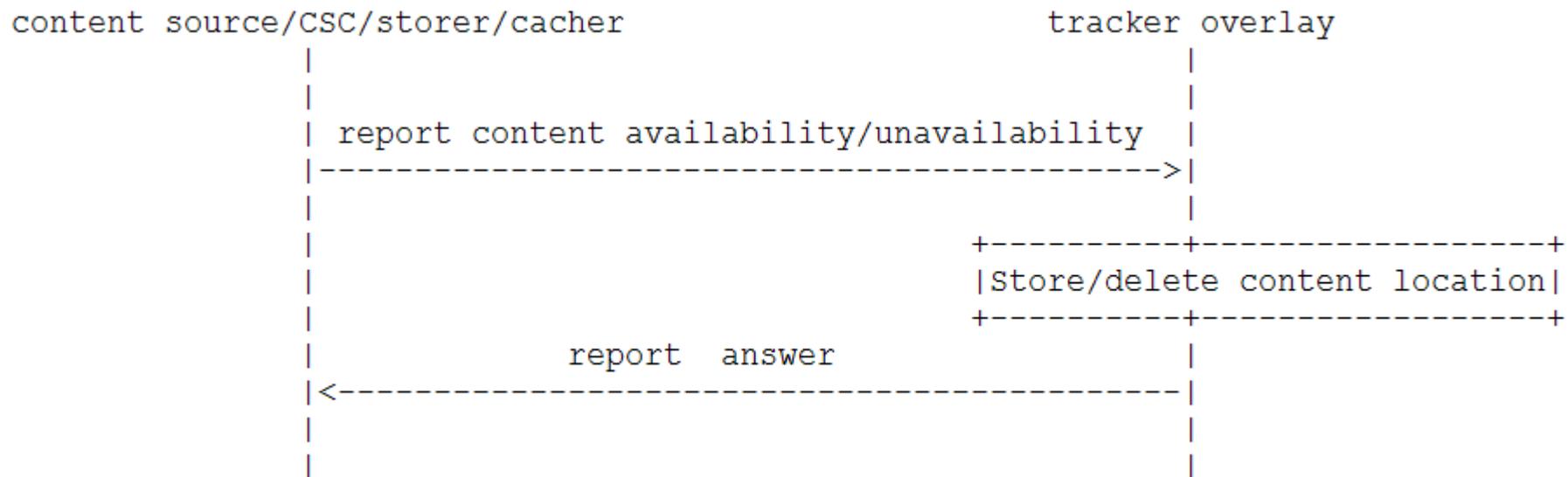


# P2P CDN architecture(2)

- One RELOAD overlay storing both content and content location
- Each node in overlay is both a tracker and storer

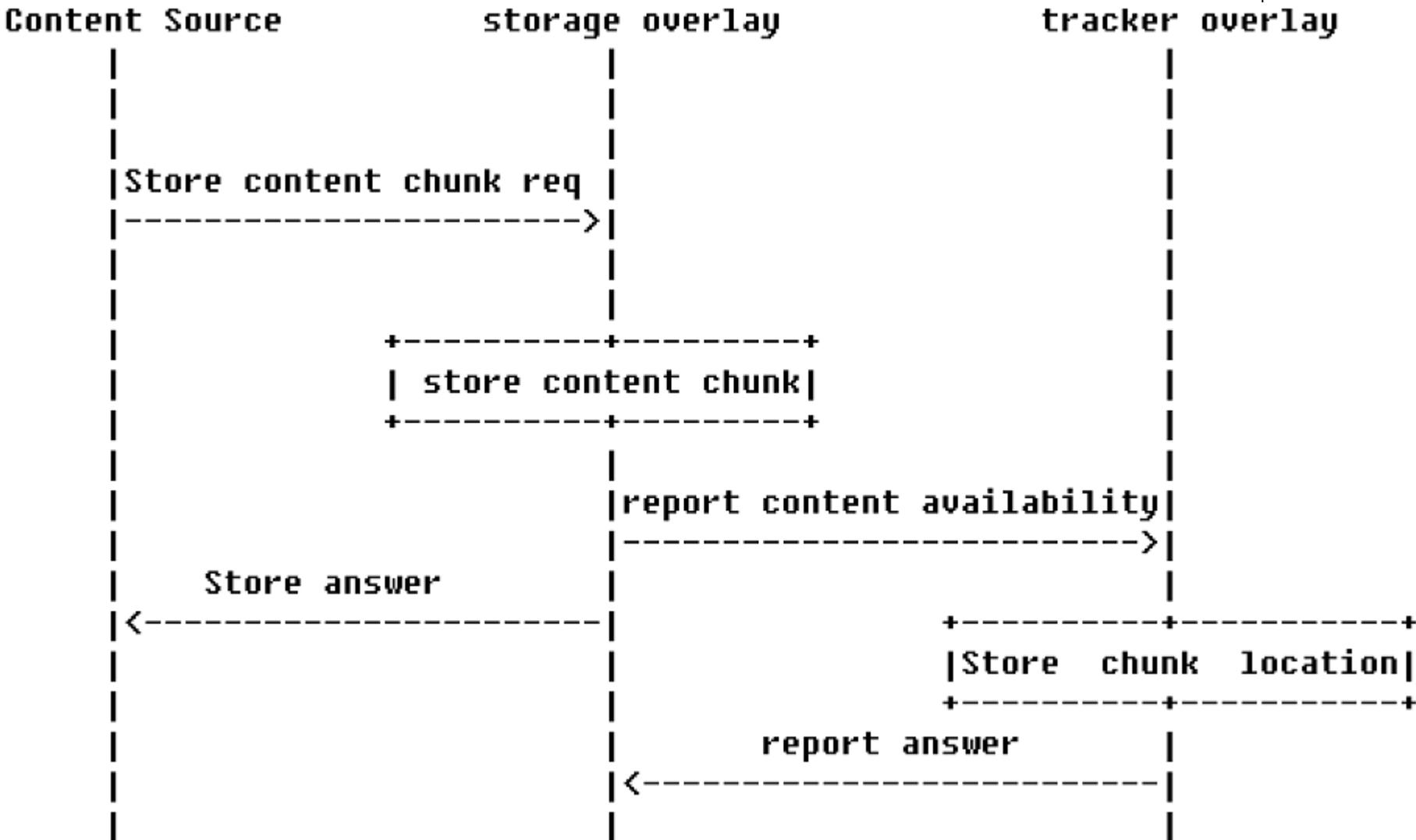


# Report content availability/unavailability

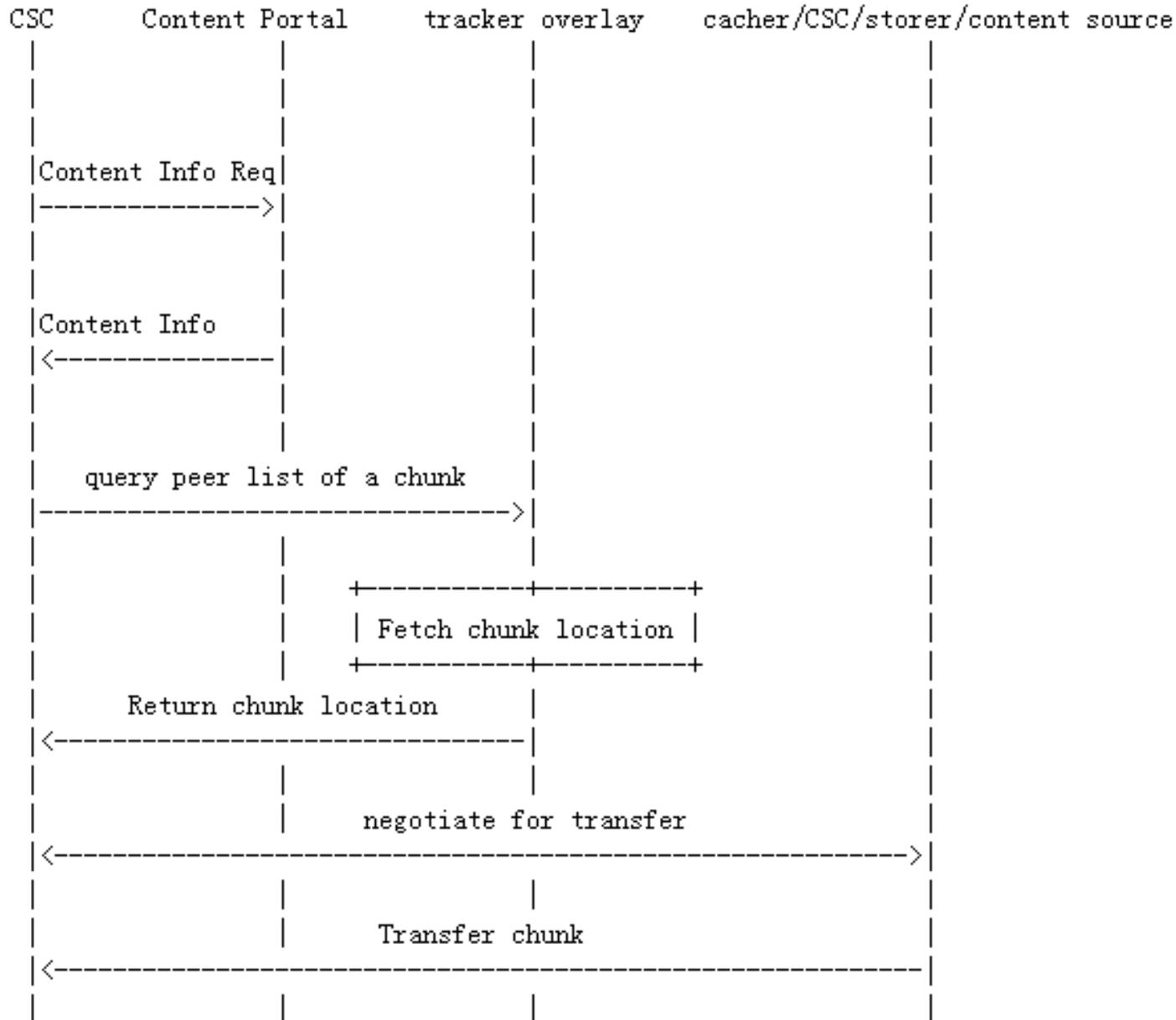


- Use case 1: Chunk caching/deleting was done by a ppsp peer
- User Case 2: Peer reconnected.

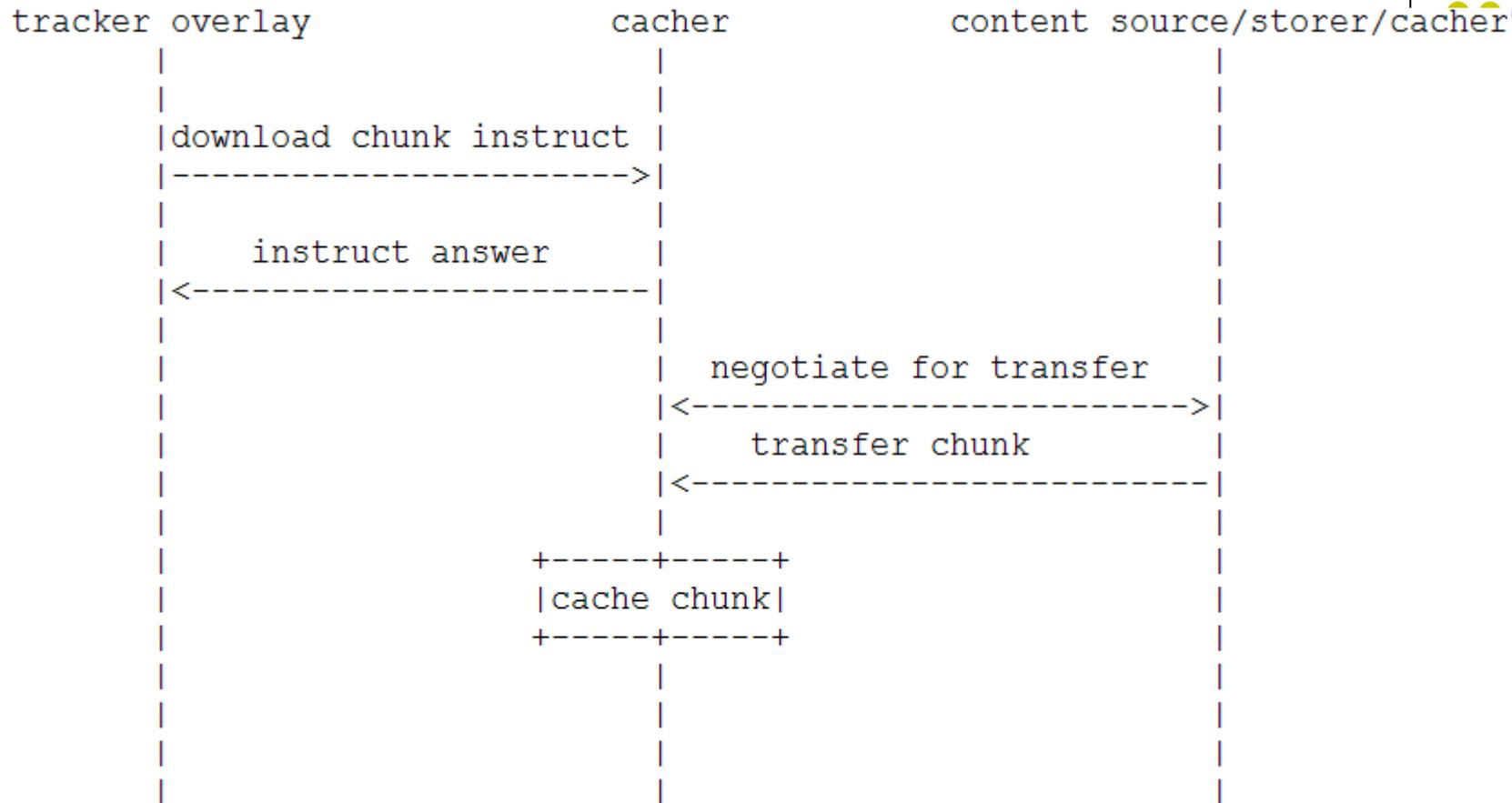
# Store content



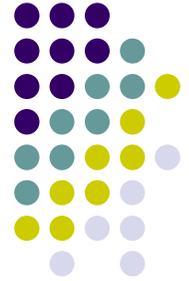
# Download content



# Push content

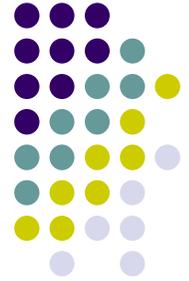


- Push a live TV channel or a movie's first chunk for fast channel/movie changing



# Requirements on PPSP

- Fast channel/movie change requires pushing content to cacher before CSC changing channel/movie.
- Batch report method is required to reduce message number, because a cacher may reports availability of many contents when reconnecting.
- Tracker should be able to provide global information to cacher for better cache management.



## Next step

- Continuing working on P2P CDN, Identify more requirements from P2P CDN's view



*Thanks for your  
comments*