

PRIVA-STREAM: Private Collaborative Streaming

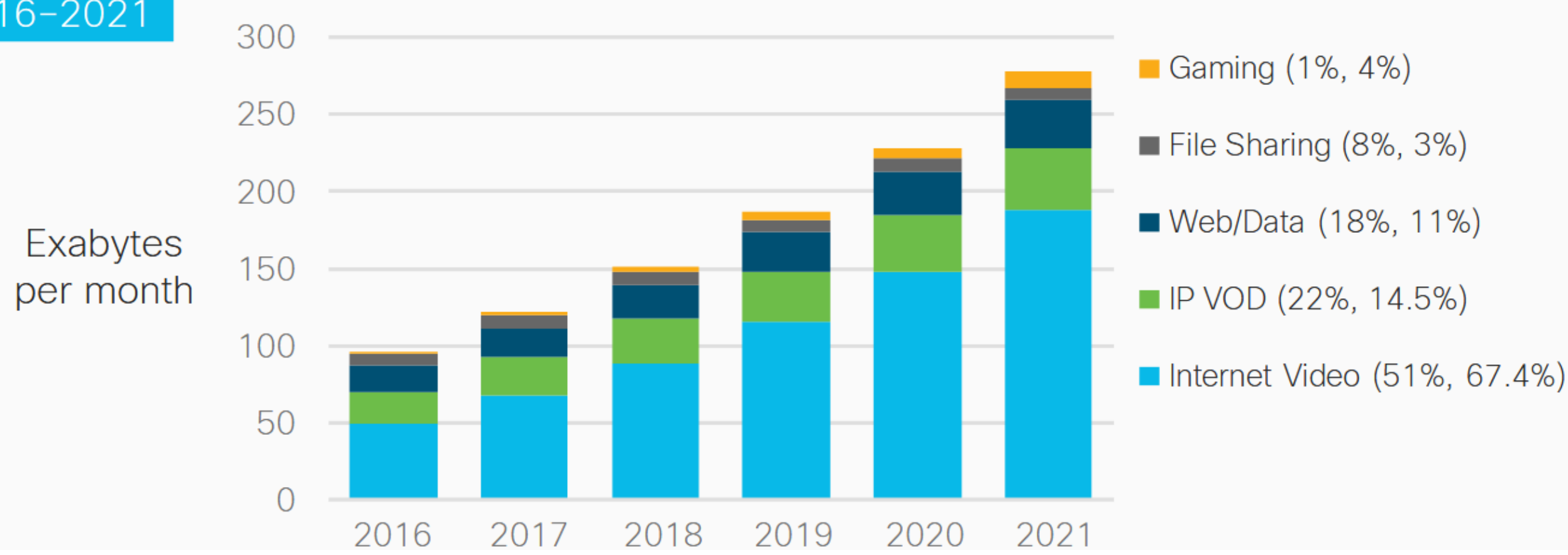
Simon Da Silva - Daniel Negru, Laurent Reveillere

PROGRESS - Univ. Bordeaux, LaBRI, France

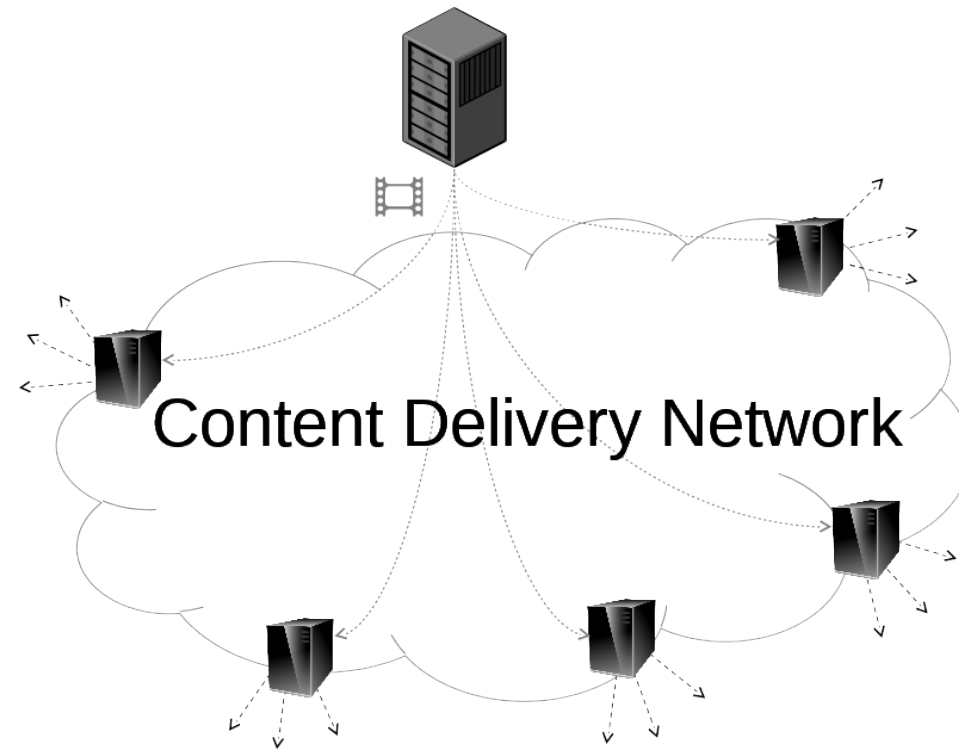
LaBRI

Video content consumption

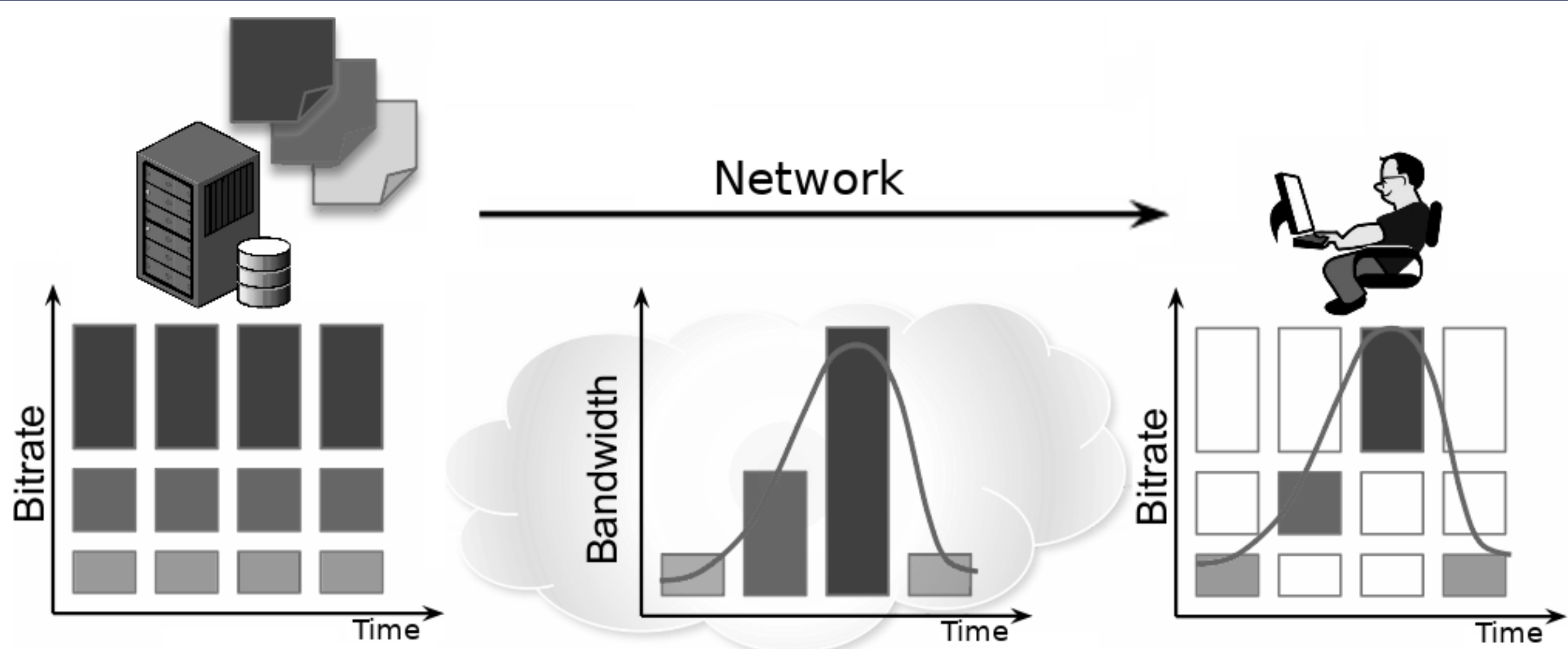
24% CAGR
2016-2021



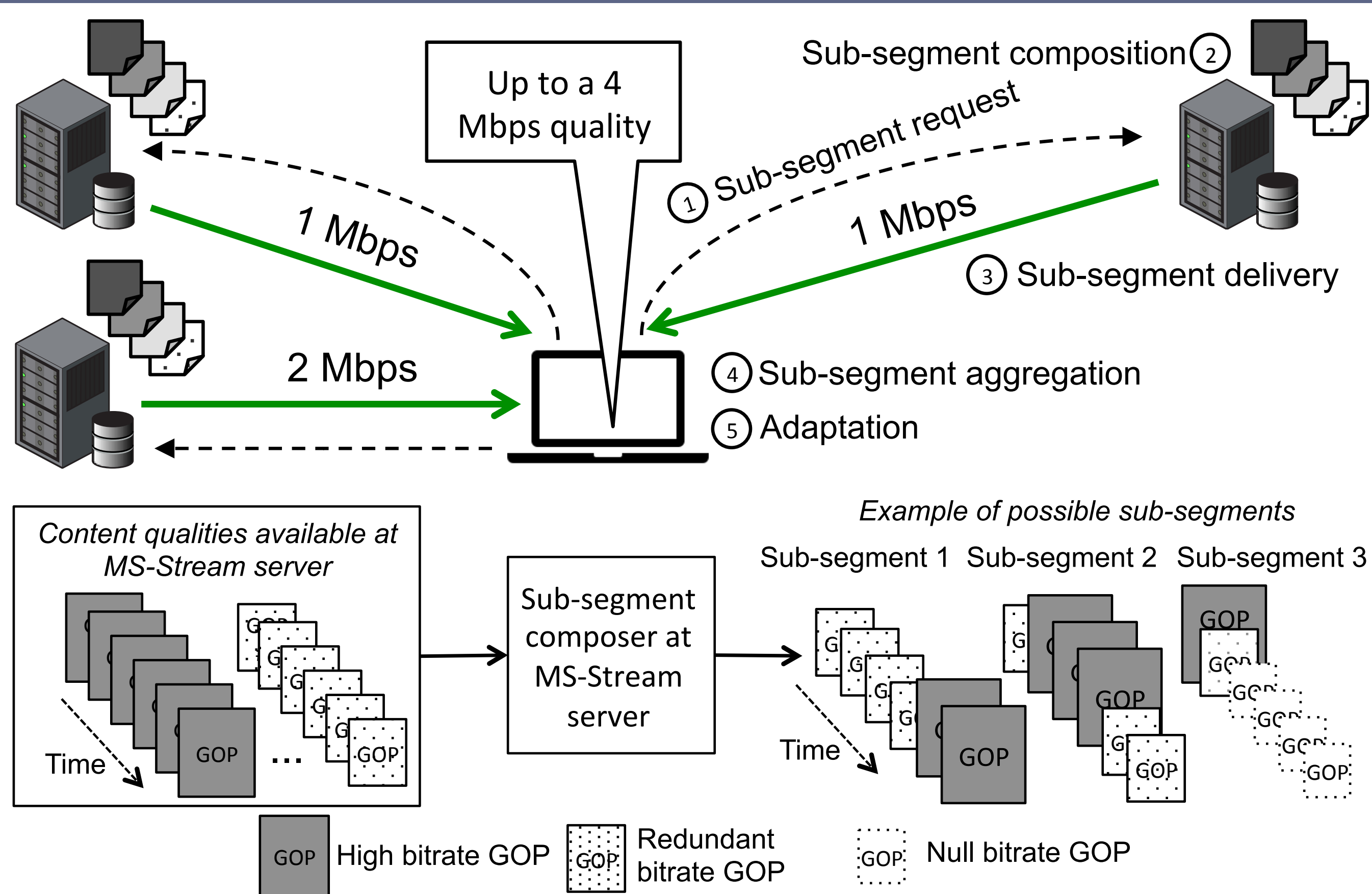
Content Delivery Networks (CDN)



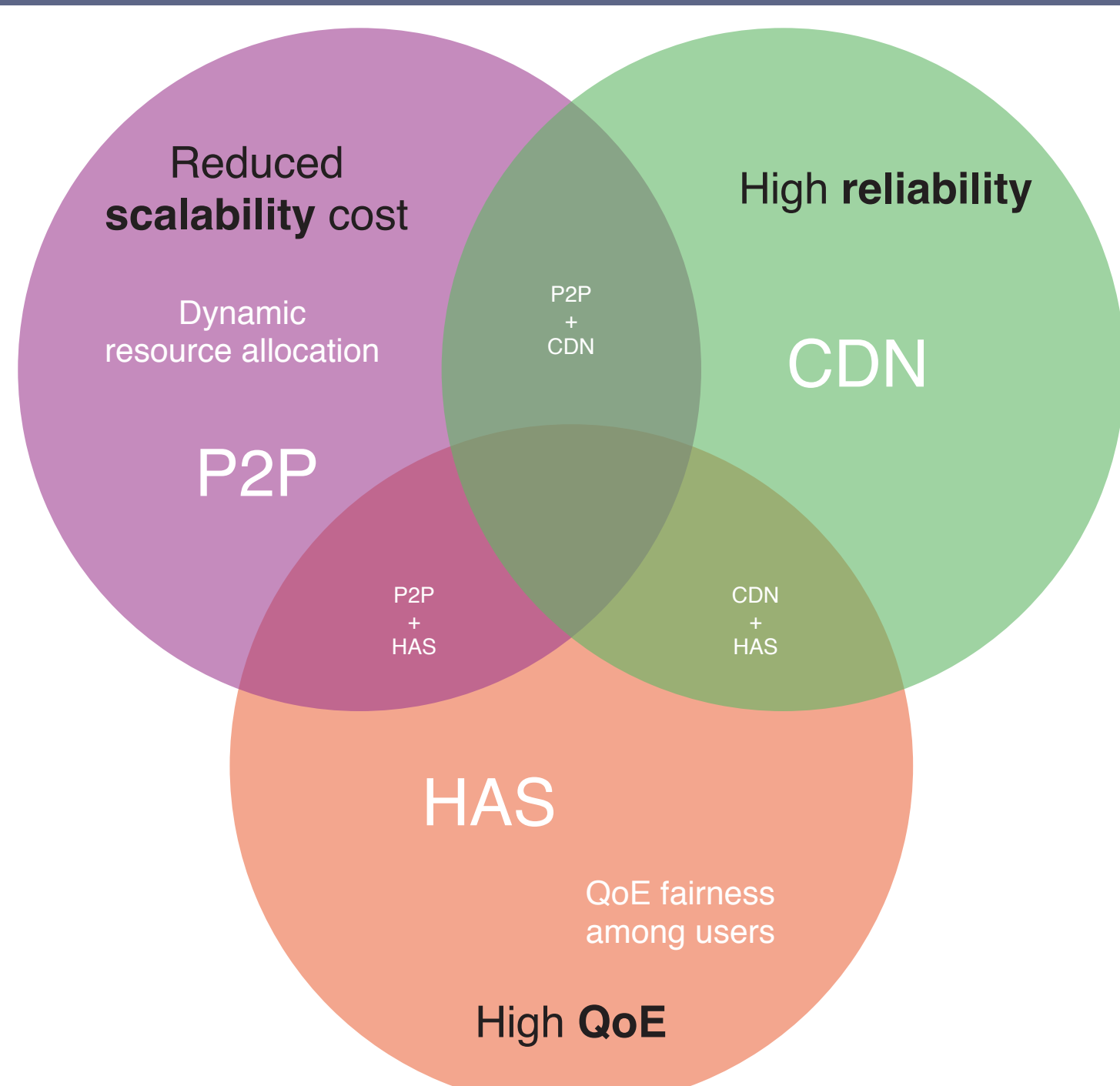
HTTP Adaptive Streaming (HAS)



MS-Stream: Multi-Source Streaming over HTTP



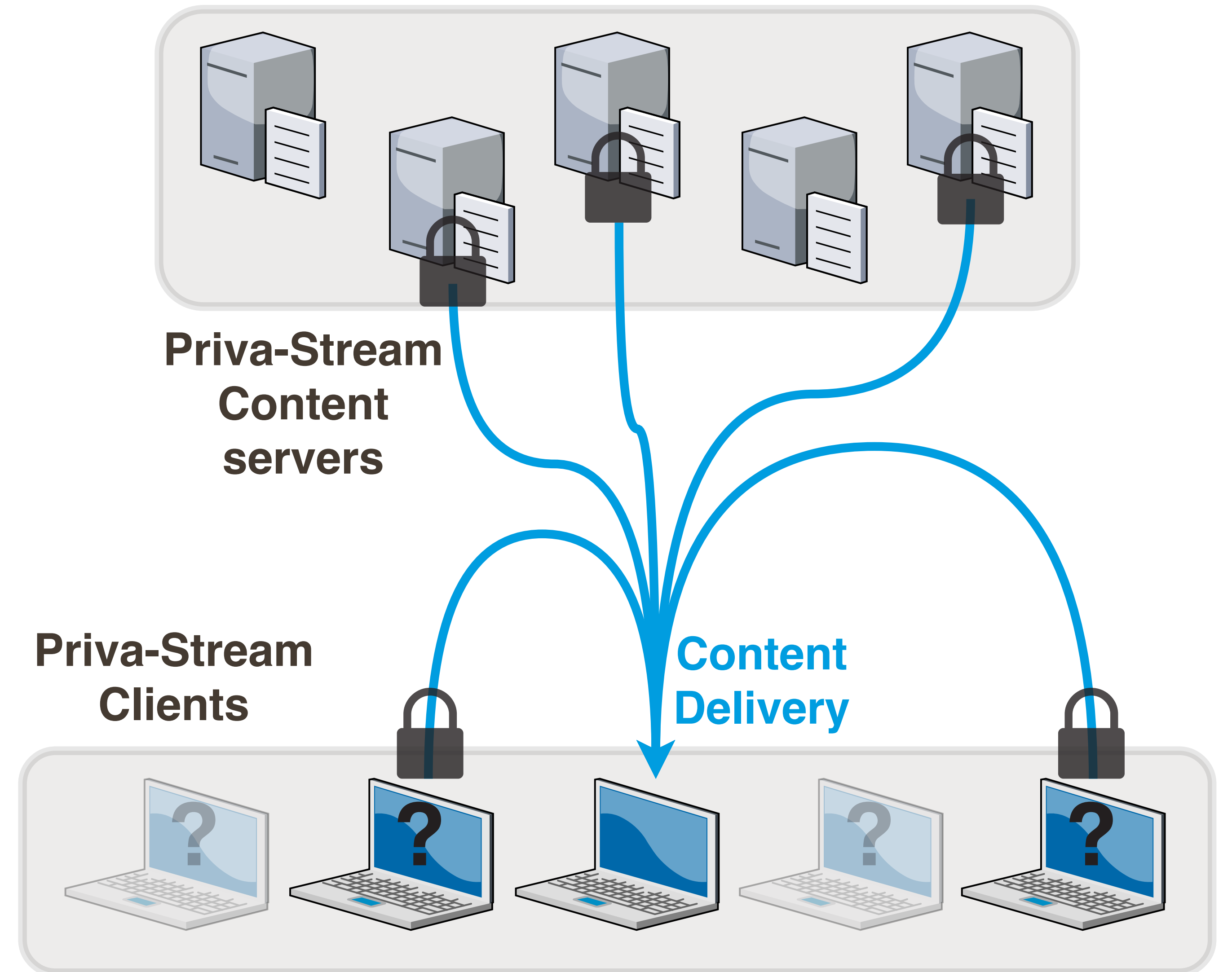
Problem statement



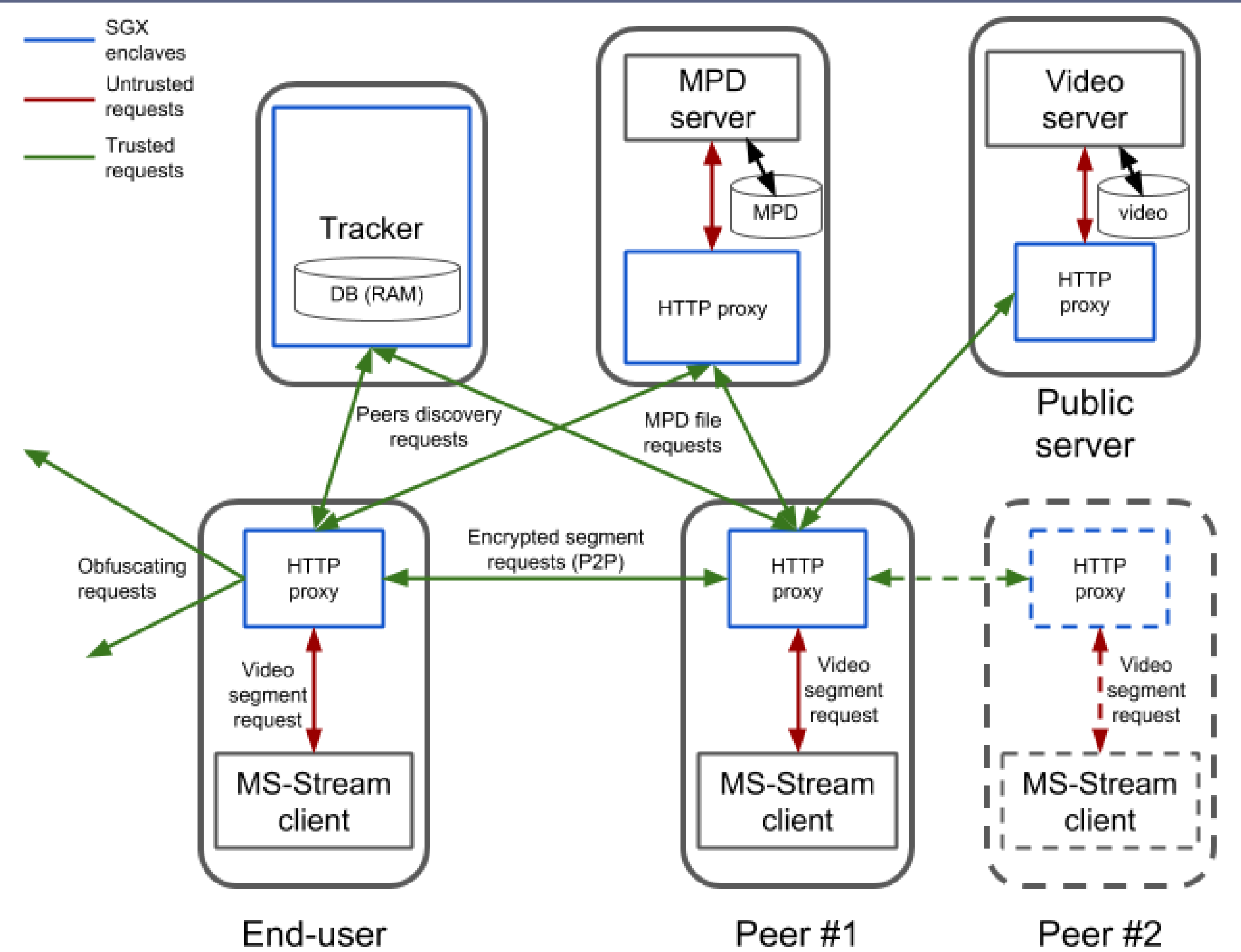
PRIVA-STREAM idea

- Reliability, QoE and scalability
MS-Stream: Multiple-Source adaptive streaming over HTTP
- Incentive to contribute
Rewarding: contributing users get a higher quality
- End-users privacy
TEE (SGX): encryption, NAT and anonymity

PRIVA-STREAM overview

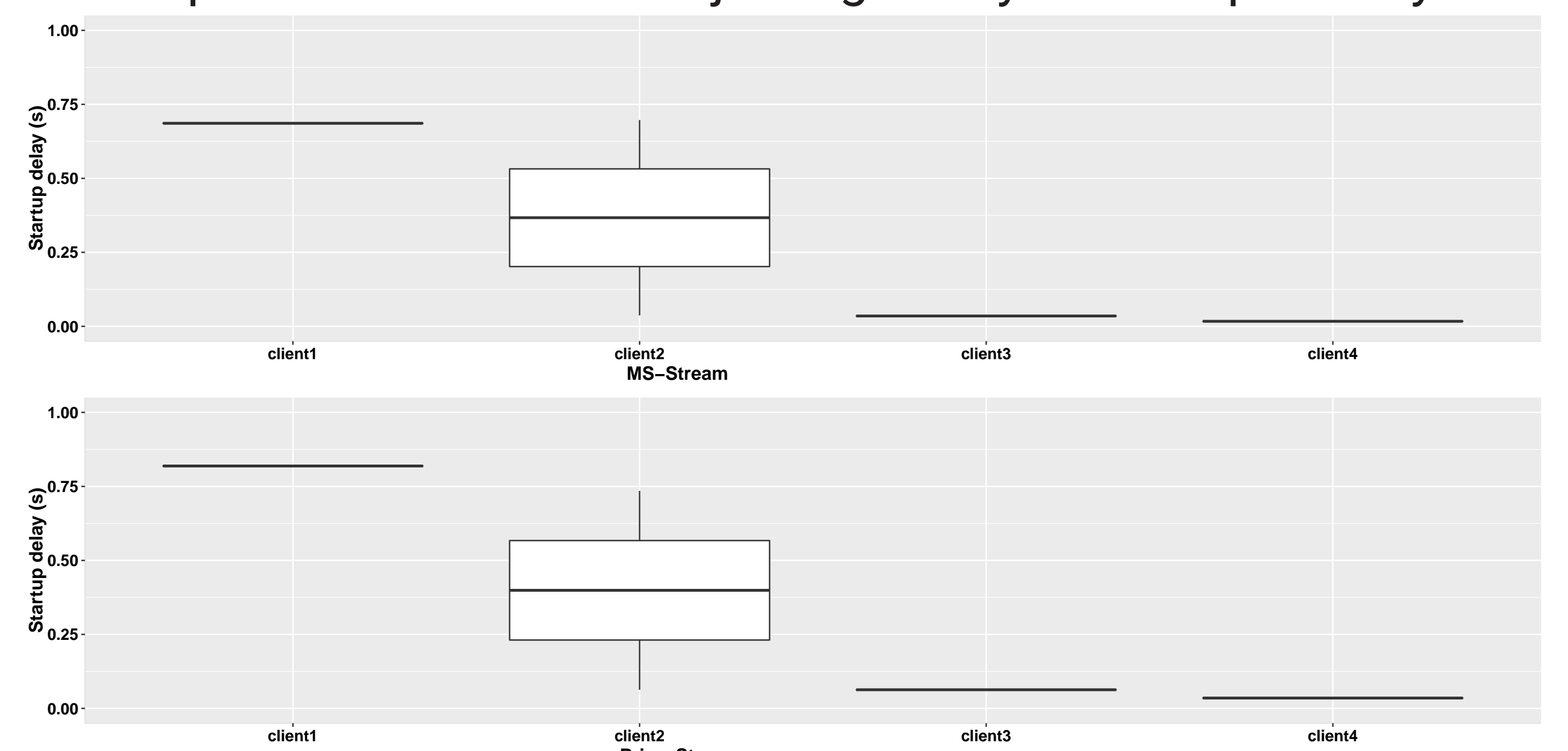


PRIVA-STREAM technical description



PRIVA-STREAM early results

Experiment: Four clients joining the system sequentially



Startup delay (s) - MS-Stream (top) vs PRIVA-STREAM (bottom)