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Multiple-Source Streaming over HTTP

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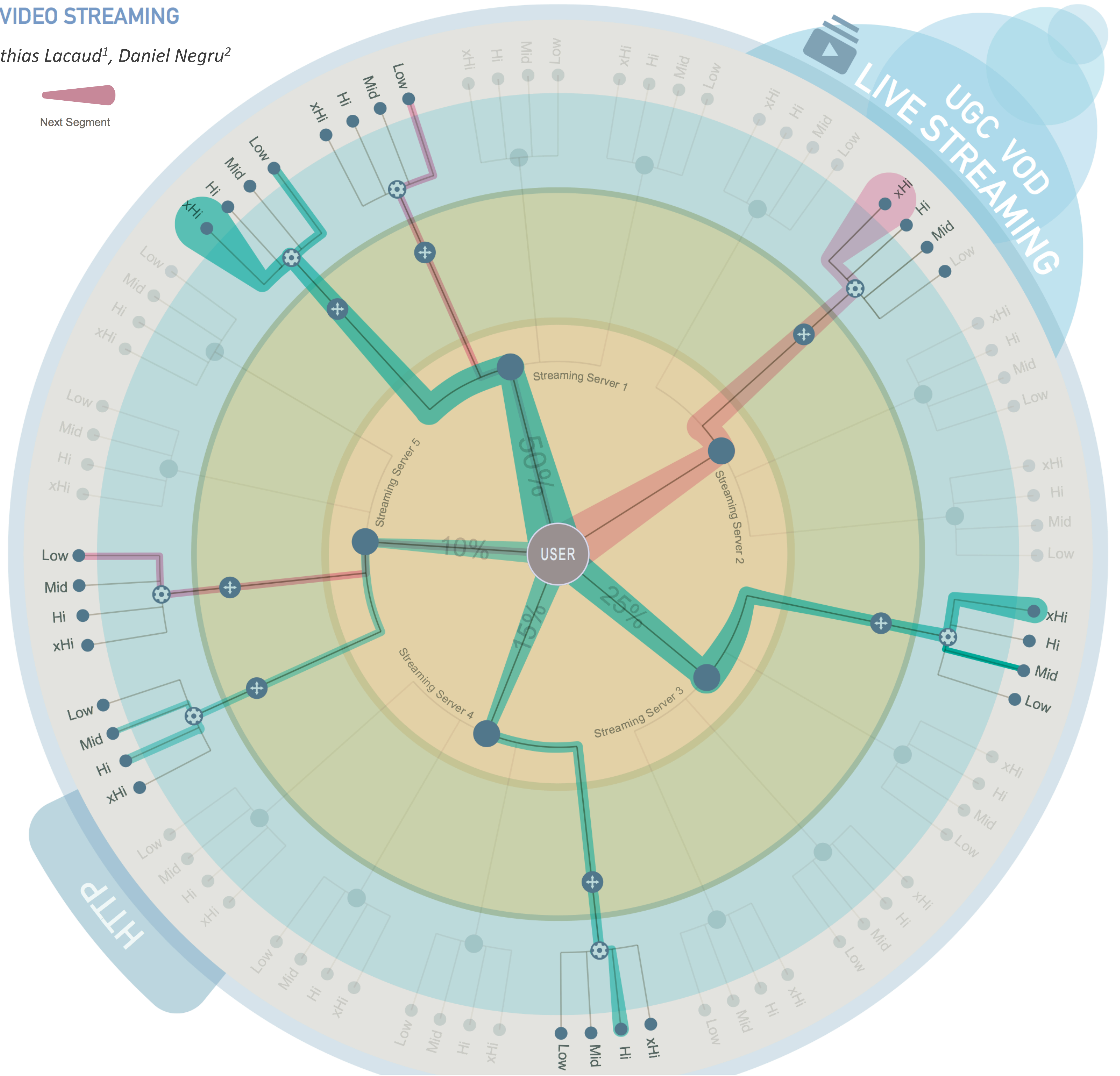
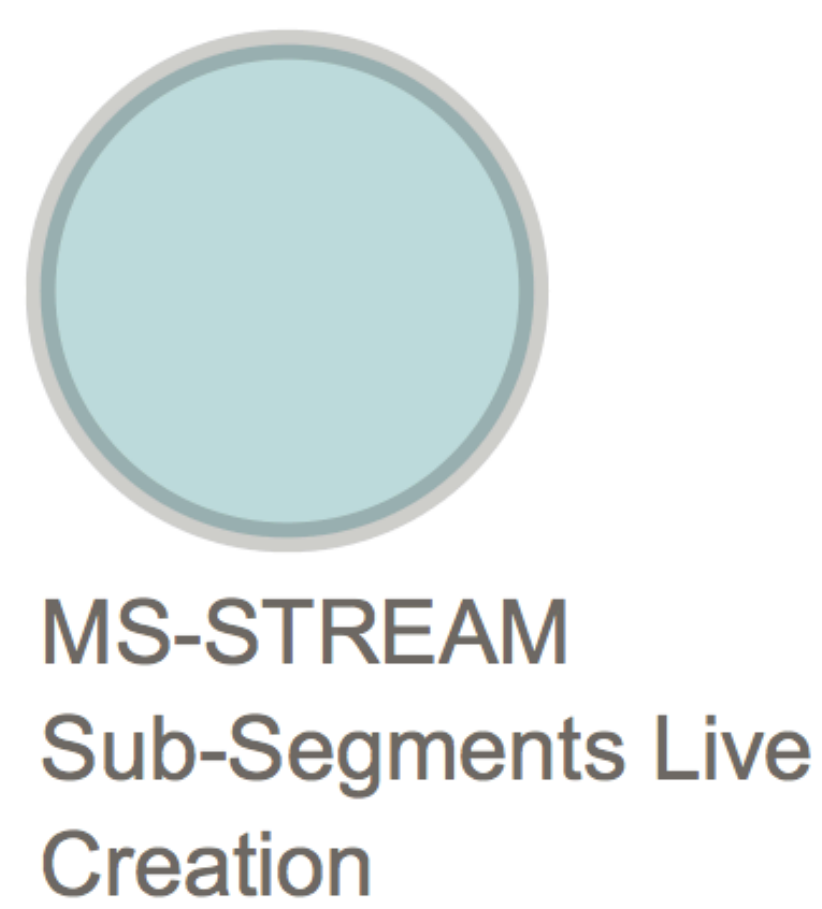
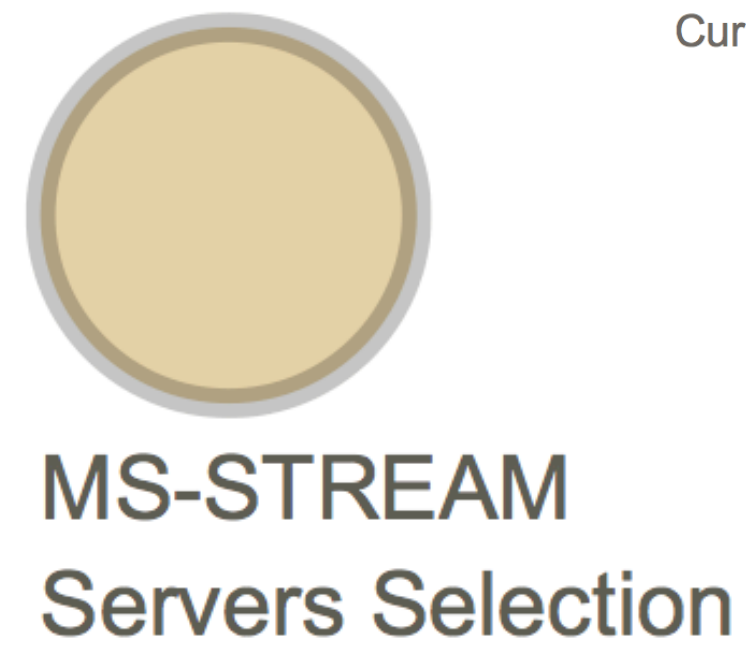
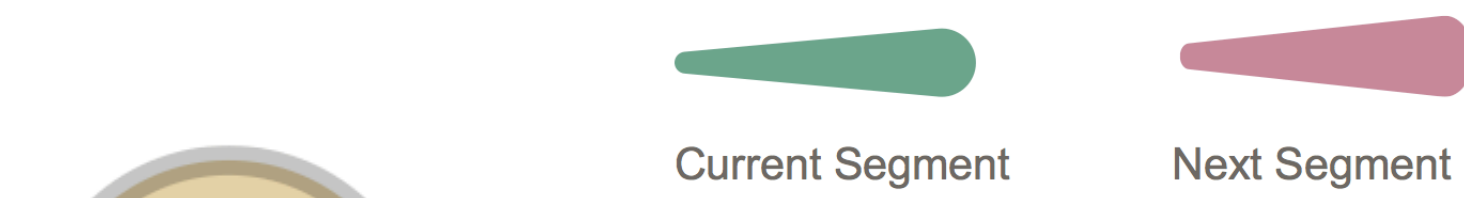
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Background: MPEG-DASH

Widely adopted solution for the delivery of video over the Internet.

Increases end-users' Quality of Experience by avoiding video freezing events, and adapting content bitrate to network resource variability.

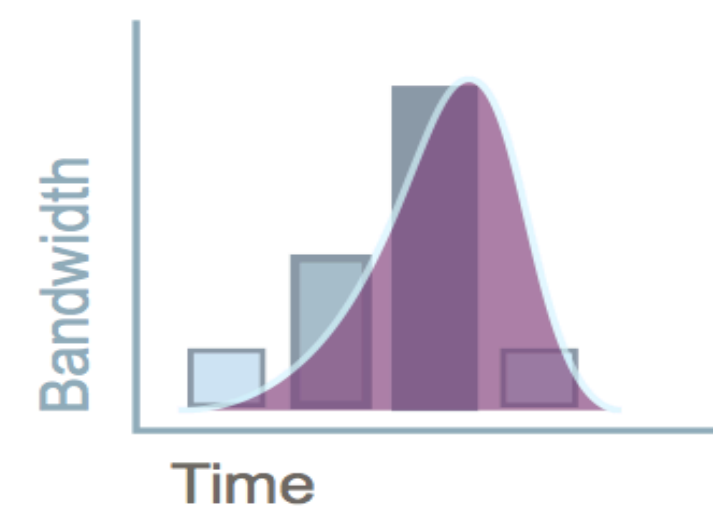
Our contribution: Multiple-Source Streaming over HTTP (MS-Stream)

Evolution of the MPEG-DASH concept to multiple servers, where a client simultaneously benefits from several servers for the download of each video segment.

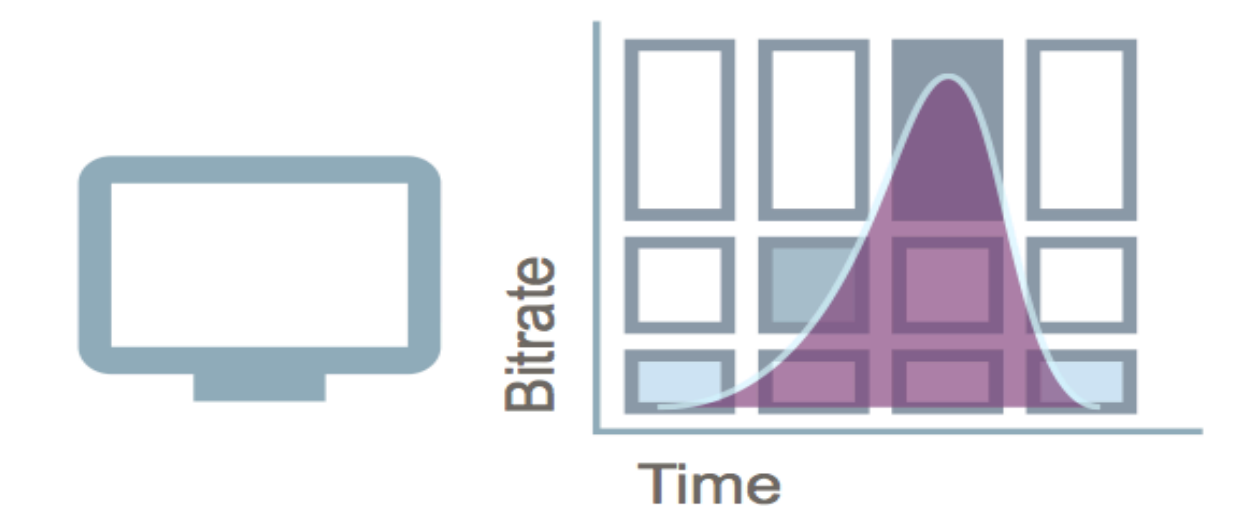
MS-Stream clients request several servers to cost-effectively create and deliver independent sub-segments.

A two-phase adaptation algorithm with (1) dual adaptation decisioning prior segment request (i.e., bitrate + number of sources) and (2) in-segment download adaptation.

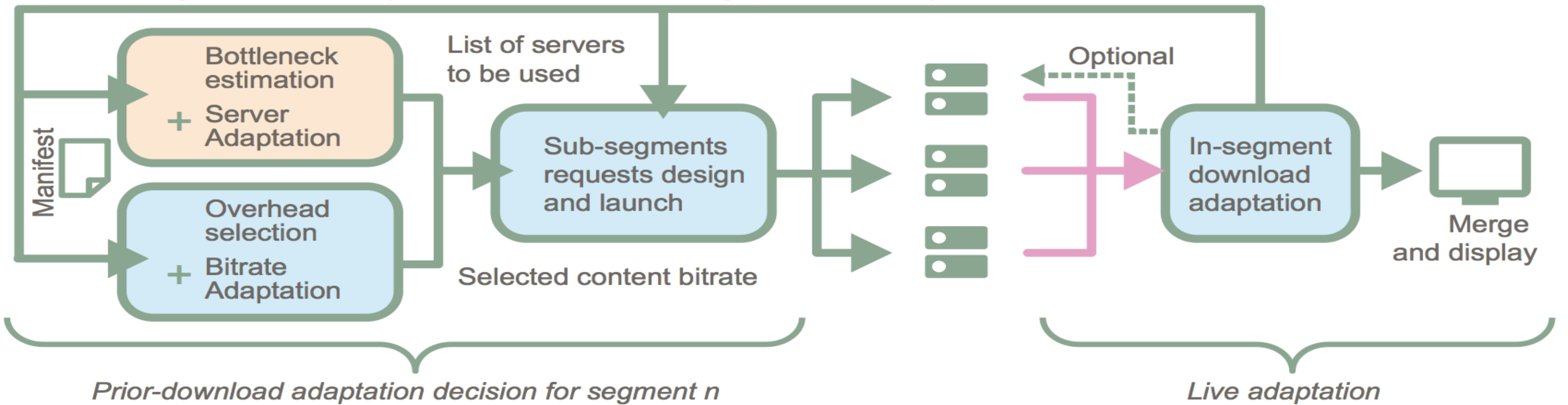
- Several quality-level media representations
- Media representations chopped into segments/fragments



- Selection of the best representation according to bandwidth estimation



Inputs for segment $n = n + 1$ (buffer level, servers' throughput estimation)



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