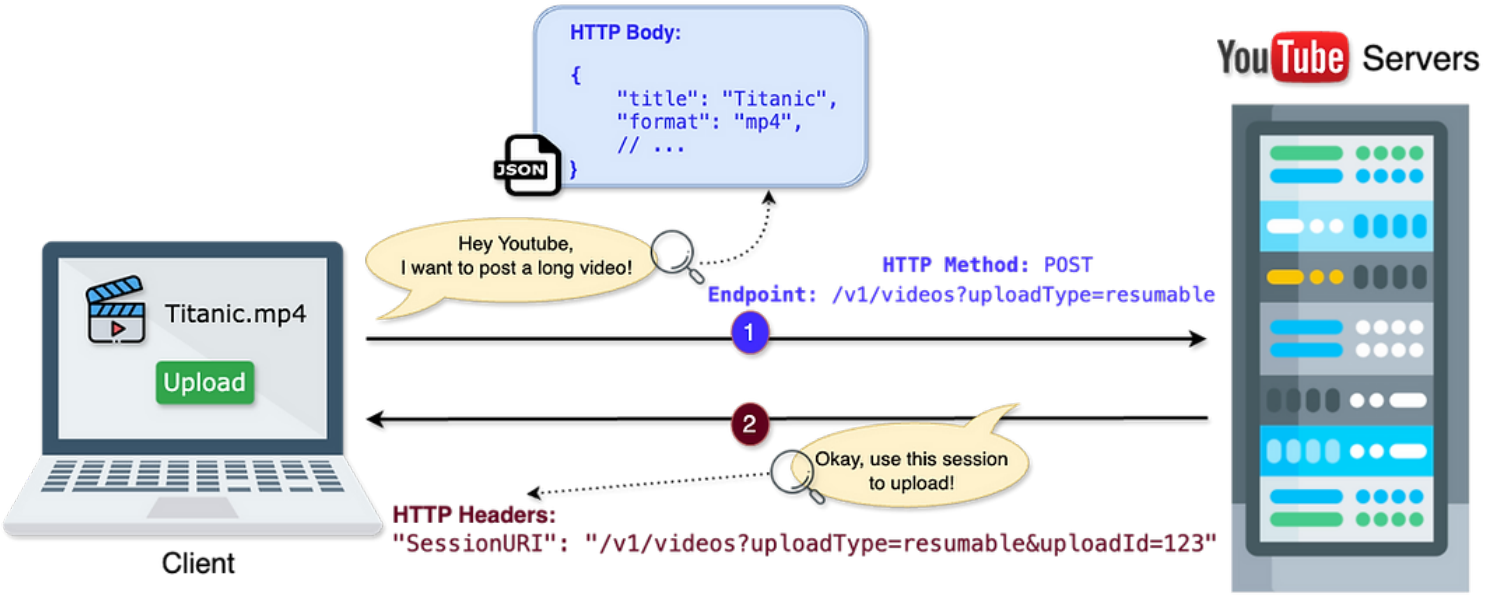
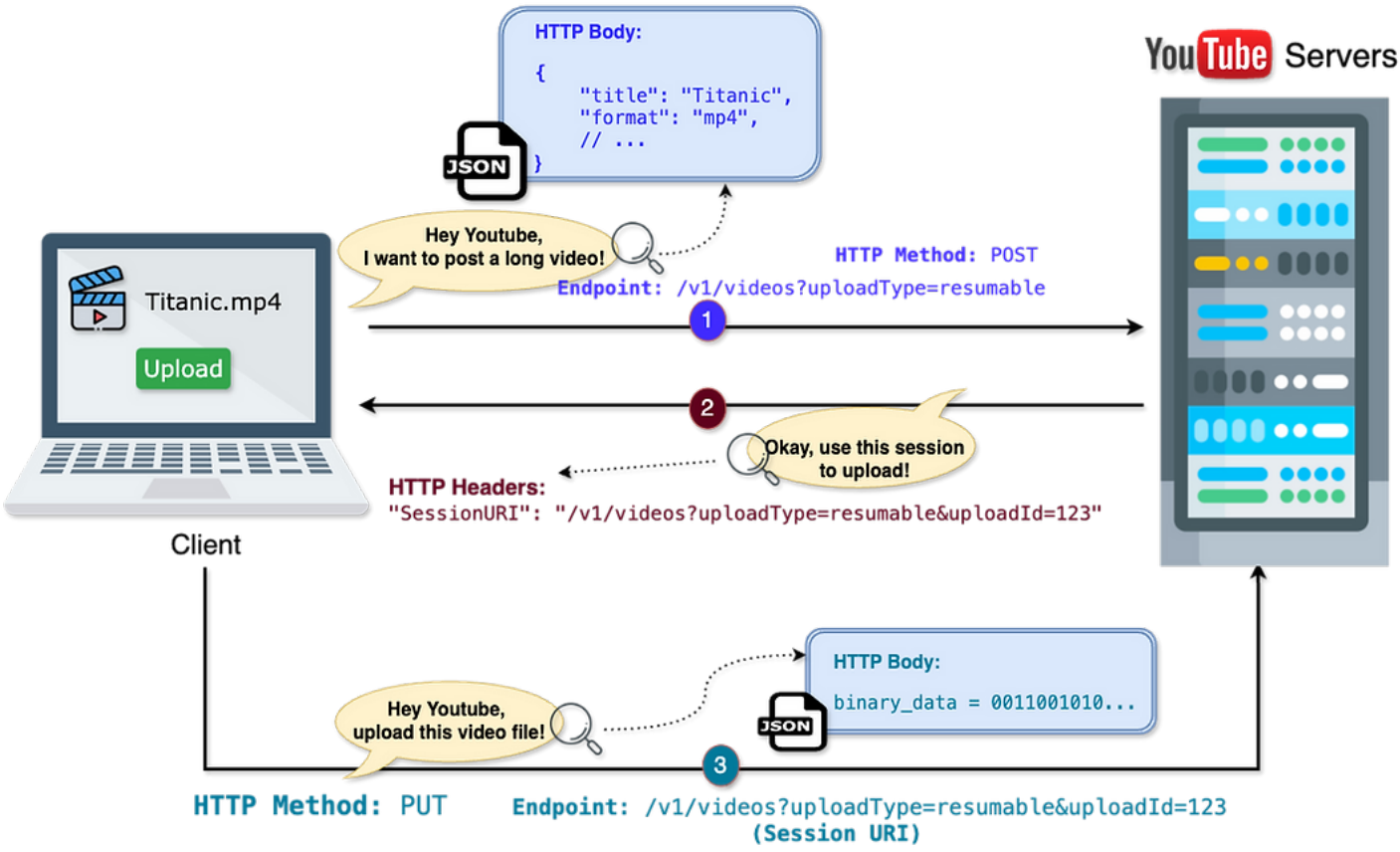
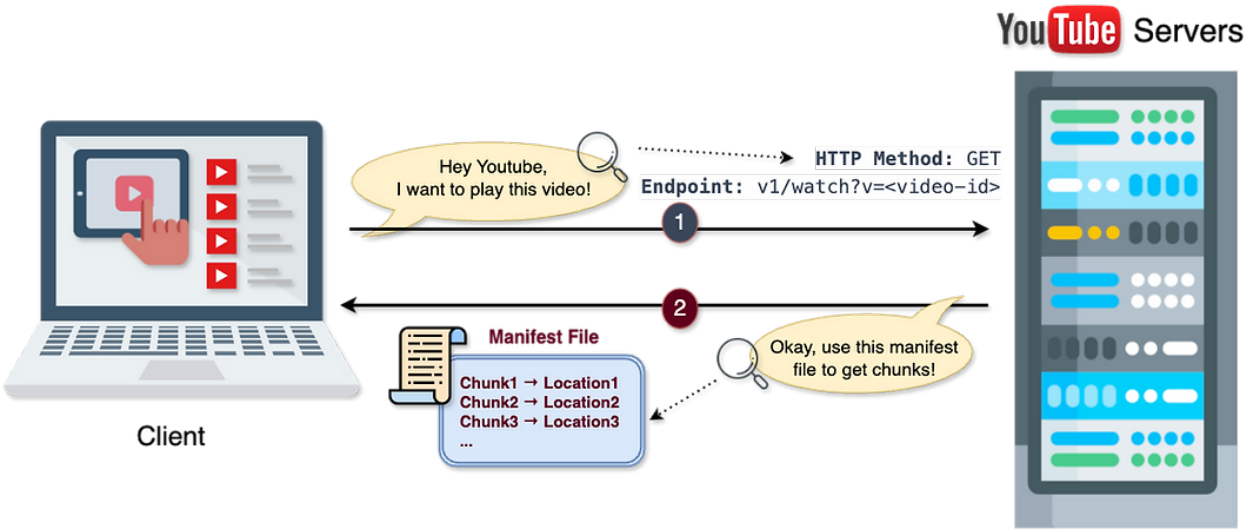
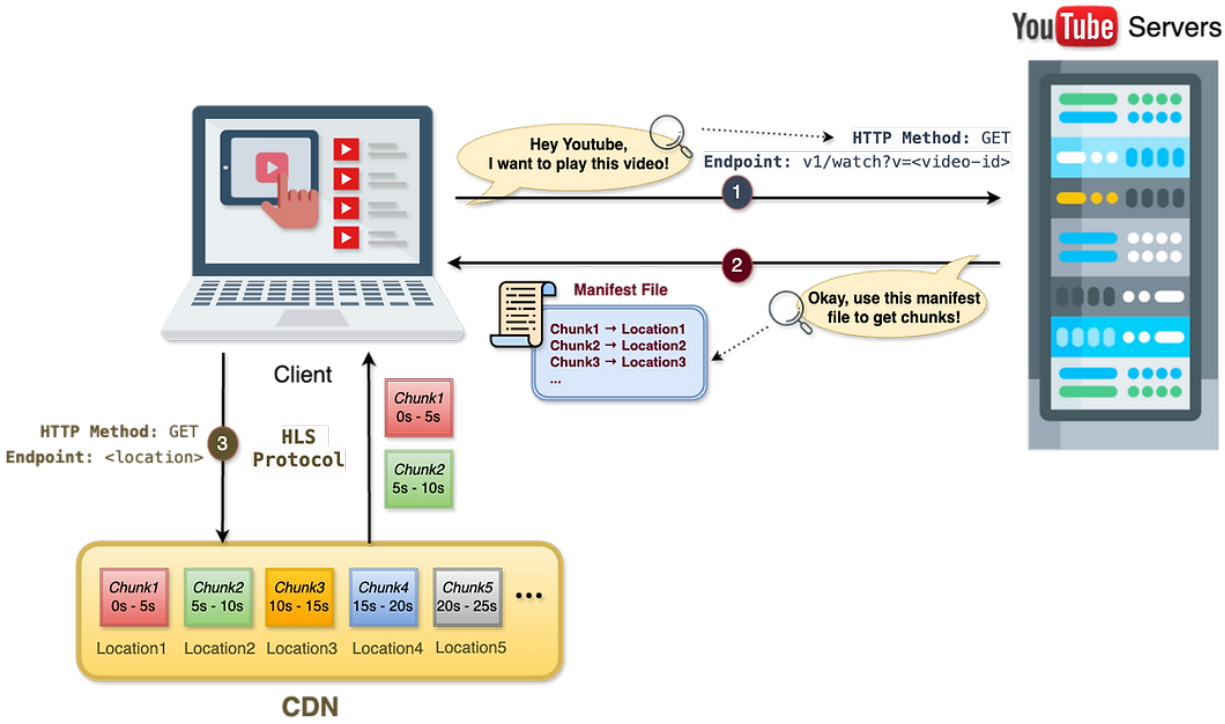
API DESIGN-Upload Content

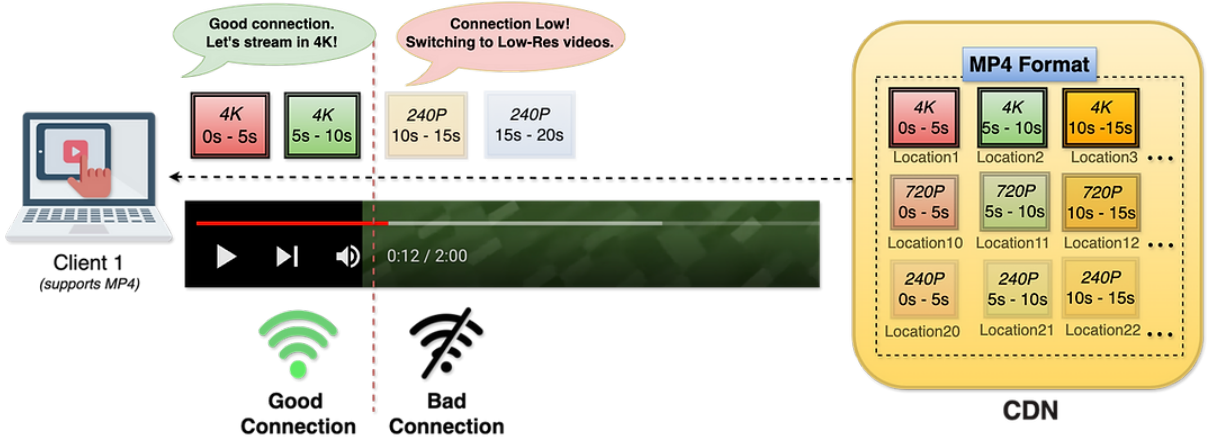




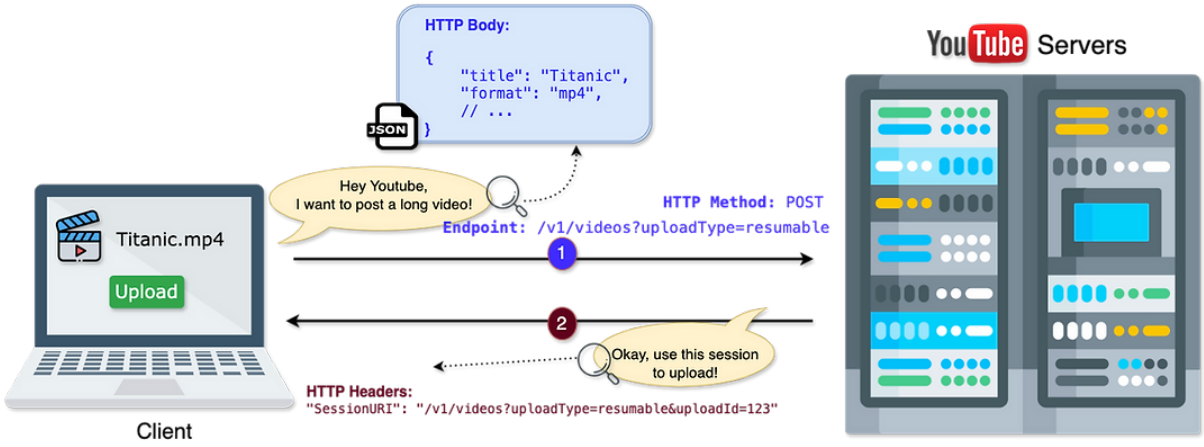
API DESIGN-Stream Content

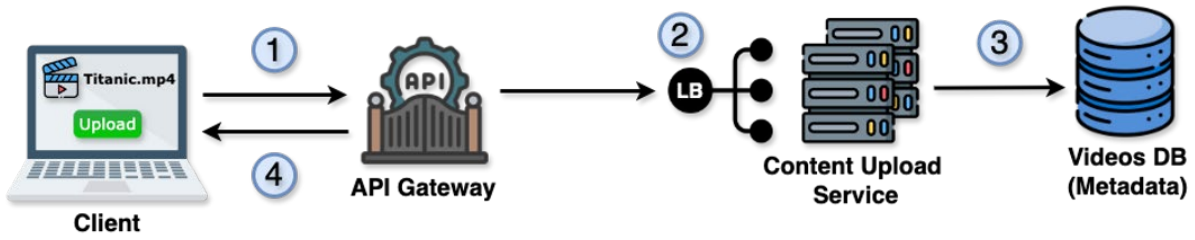


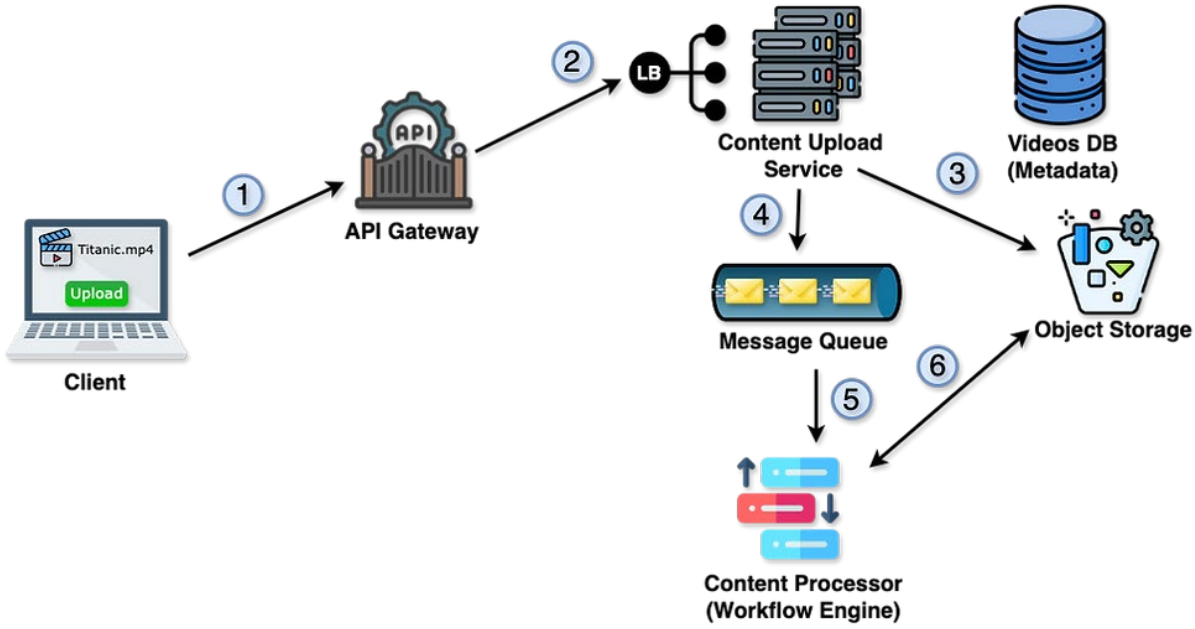


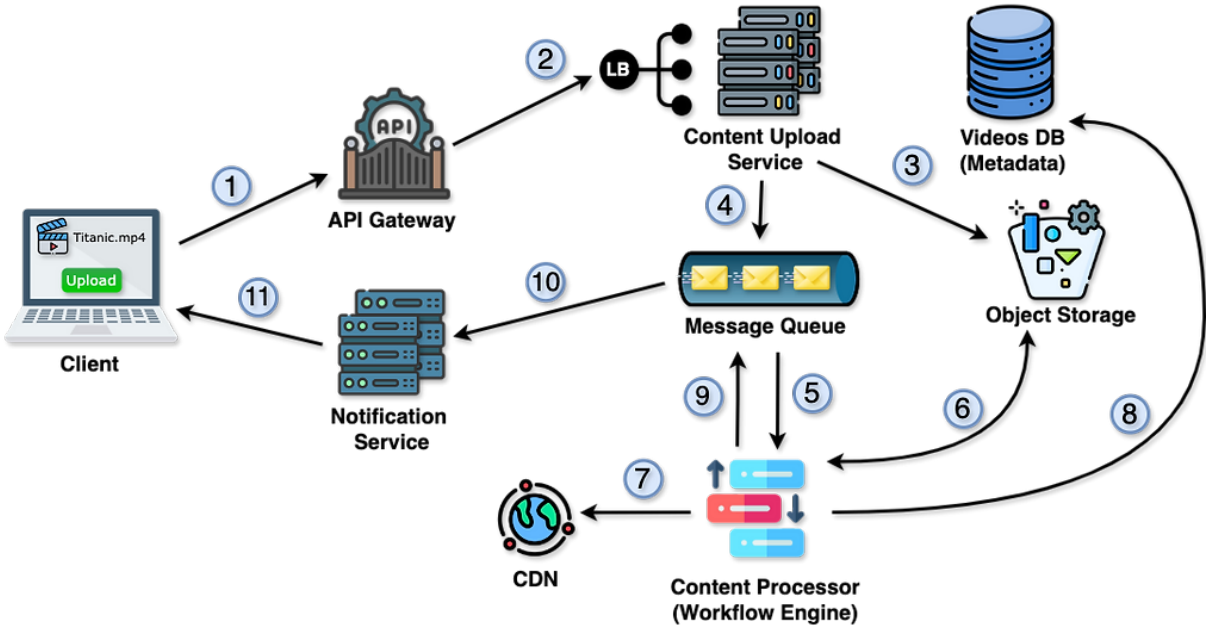


High Level Design-Upload Content

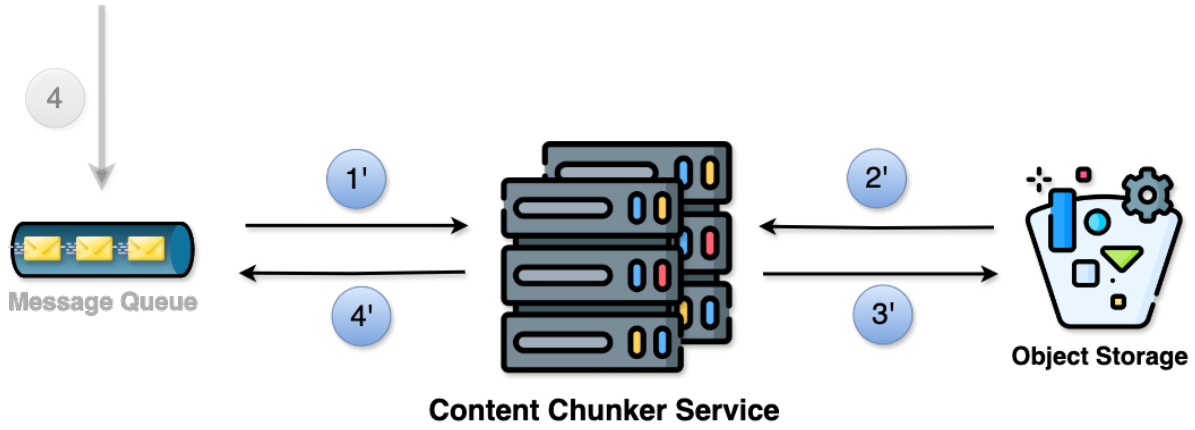




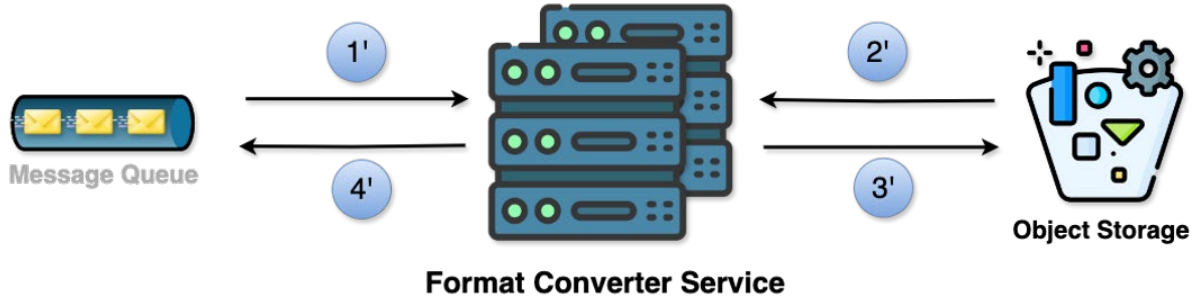




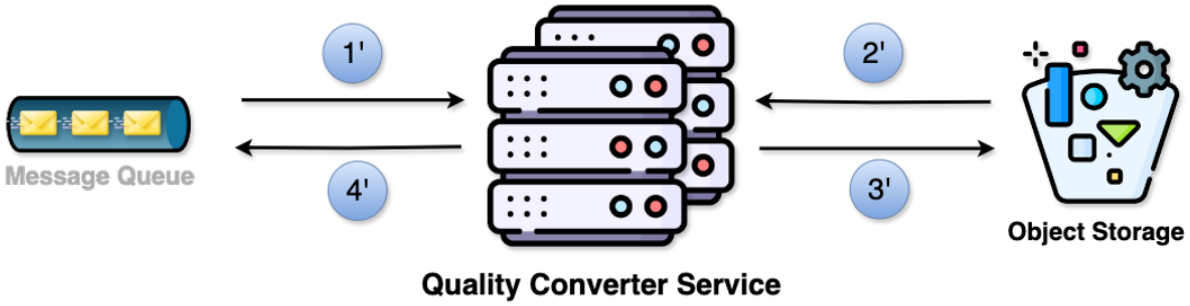
Content Chunker Service



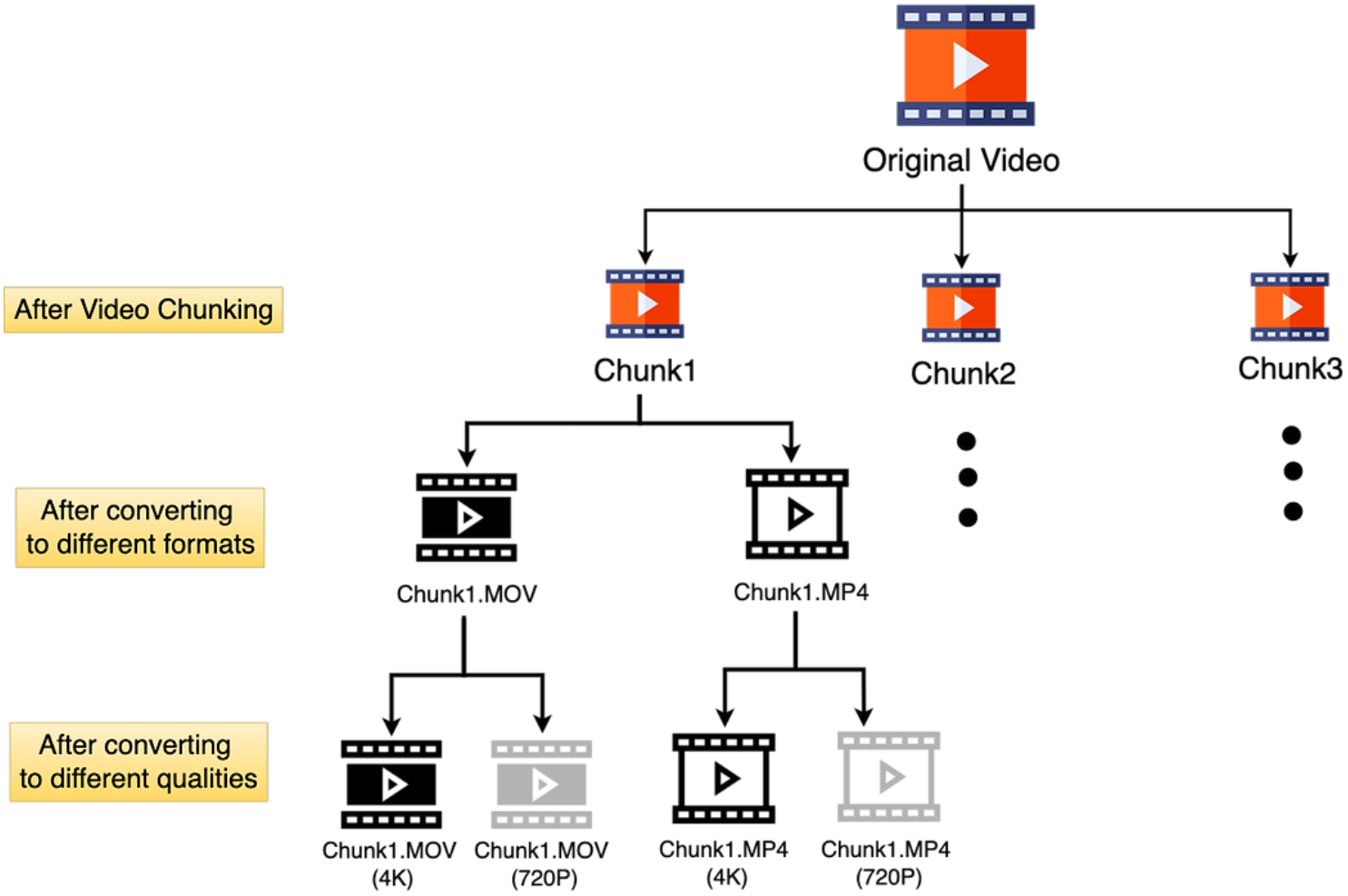
Format Converter Service



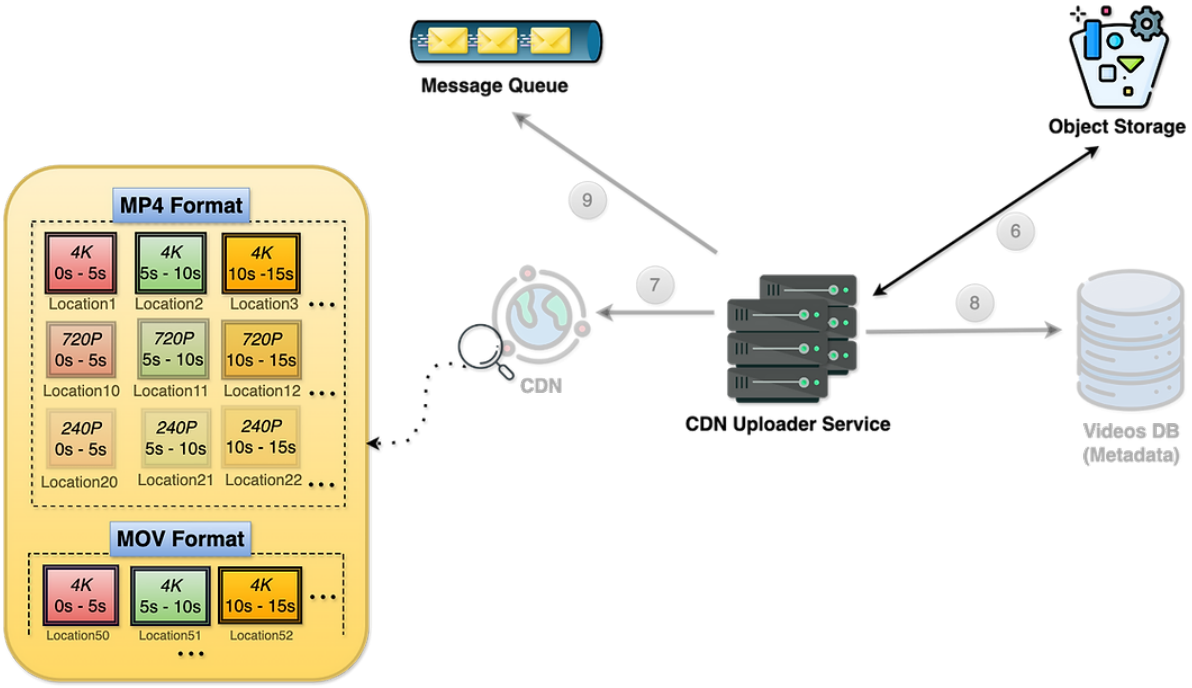
Quality Converter Service



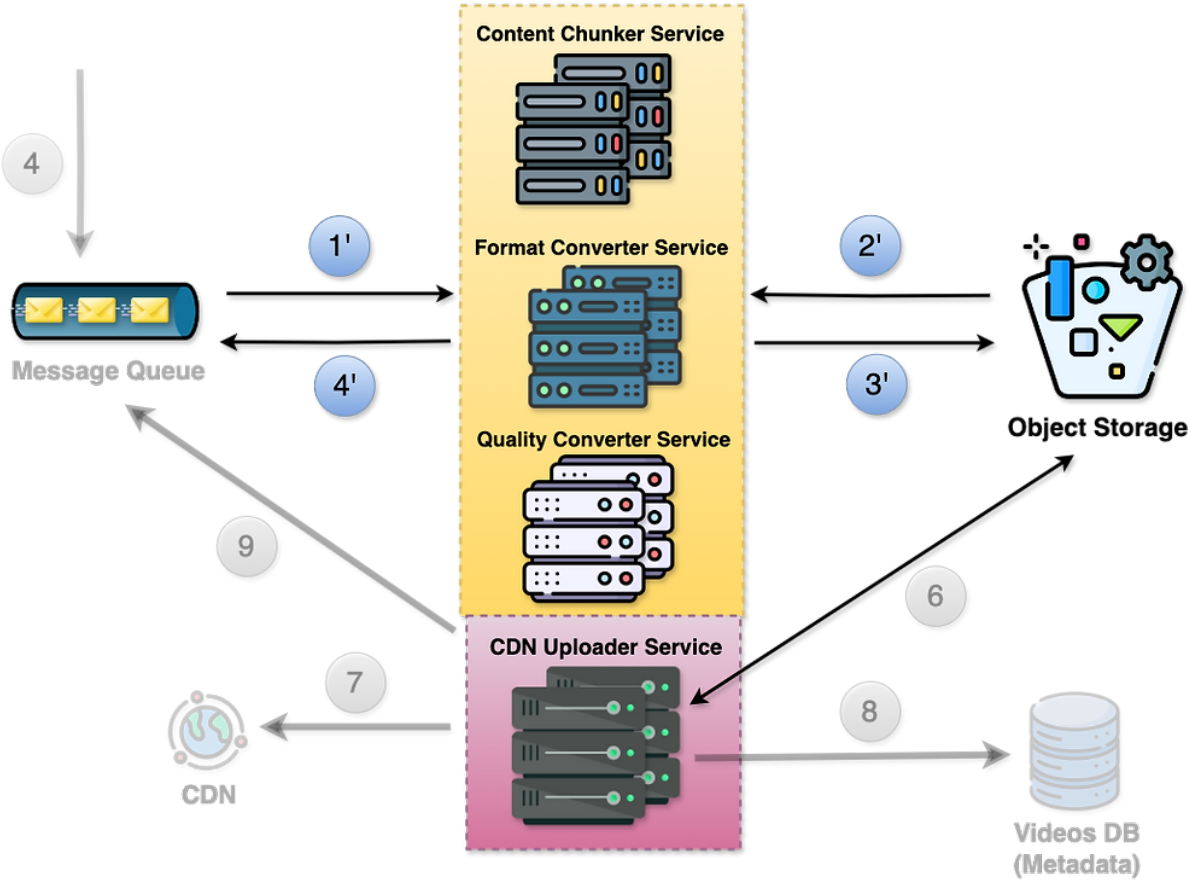
Chunking Videos



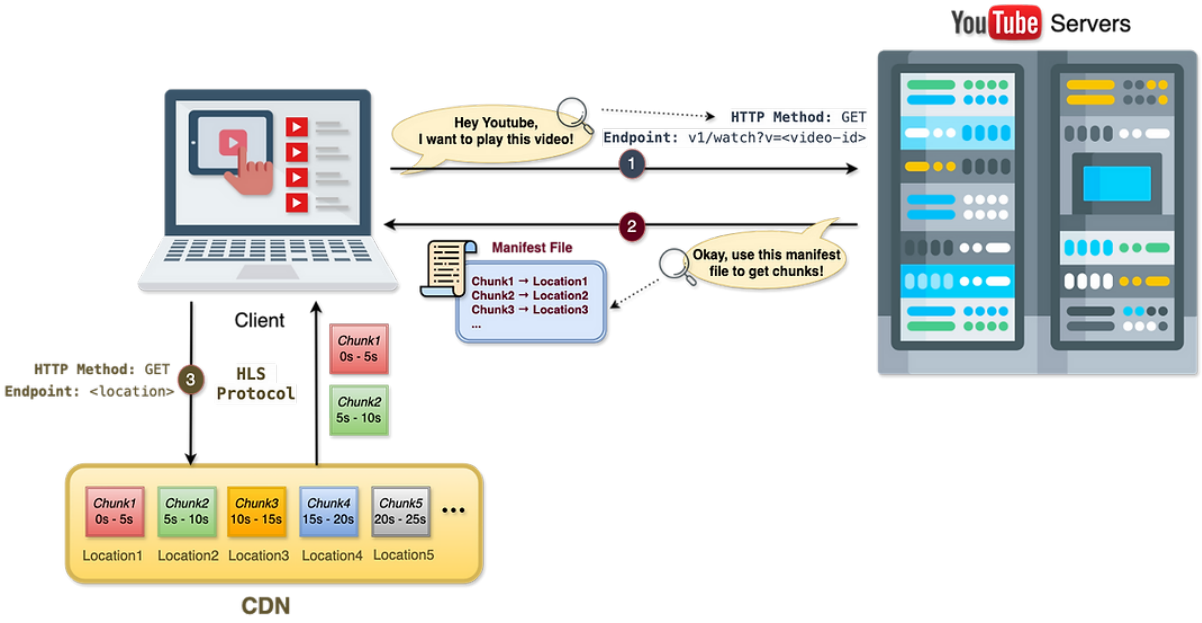
CDN Uploader Service

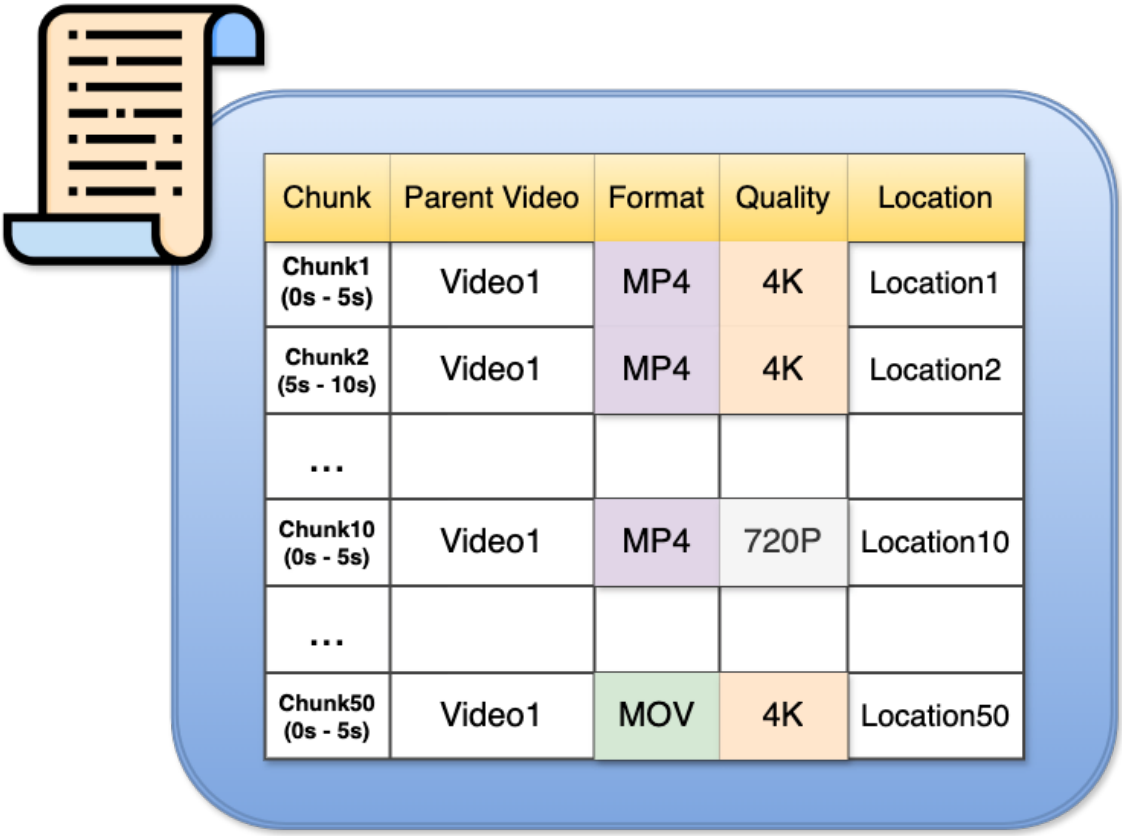


Overall Chunking Flow

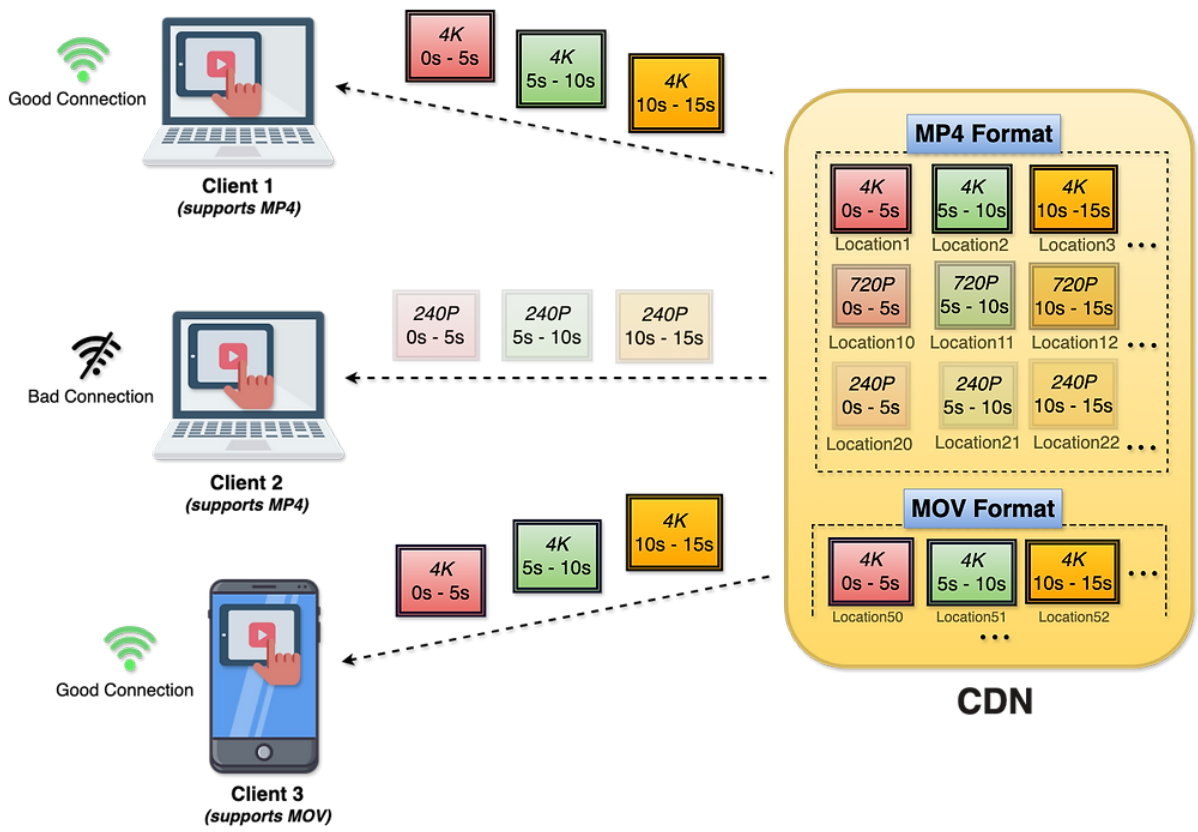


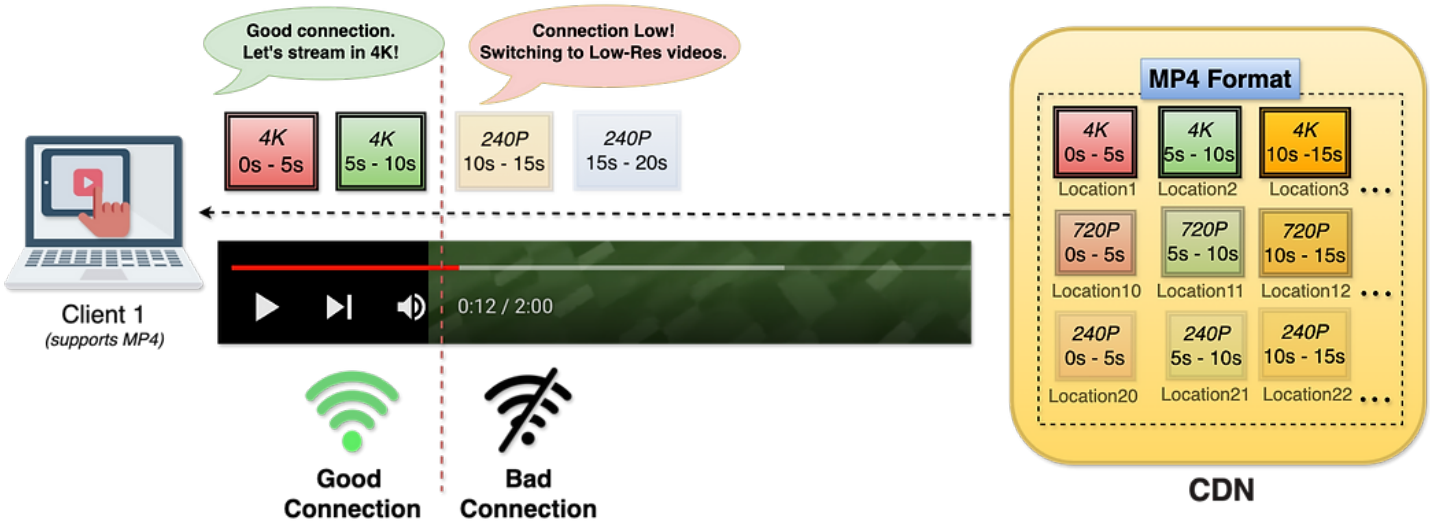
High Level Design-Stream Content





Chunk	Parent Video	Format	Quality	Location
Chunk1 (0s - 5s)	Video1	MP4	4K	Location1
Chunk2 (5s - 10s)	Video1	MP4	4K	Location2
...				
Chunk10 (0s - 5s)	Video1	MP4	720P	Location10
...				
Chunk50 (0s - 5s)	Video1	MOV	4K	Location50


Good Connection
Client 1
(supports MP4)
4K 0s - 5s
4K 5s - 10s
4K 10s - 15s
Bad Connection
Client 2
(supports MP4)
240P 0s - 5s
240P 5s - 10s
240P 10s - 15s
Good Connection
Client 3
(supports MOV)
4K 0s - 5s
4K 5s - 10s
4K 10s - 15s
MP4 Format
4K 0s - 5s
4K 5s - 10s
4K 10s -15s
Location1
Location2
Location3
720P 0s - 5s
720P 5s - 10s
720P 10s - 15s
Location10
Location11
Location12
240P 0s - 5s
240P 5s - 10s
240P 10s - 15s
Location20
Location21
Location22
MOV Format
4K 0s - 5s
4K 5s - 10s
4K 10s - 15s
Location50
Location51
Location52
CDN


Good connection.
Let's stream in 4K!
Connection Low!
Switching to Low-Res videos.
4K 0s - 5s
4K 5s - 10s
240P 10s - 15s
240P 15s - 20s
Client 1
(supports MP4)
0:12 / 2:00
Good Connection
Bad Connection
MP4 Format
4K 0s - 5s
4K 5s - 10s
4K 10s -15s
Location1
Location2
Location3
720P 0s - 5s
720P 5s - 10s
720P 10s - 15s
Location10
Location11
Location12
240P 0s - 5s
240P 5s - 10s
240P 10s - 15s
Location20
Location21
Location22
CDN

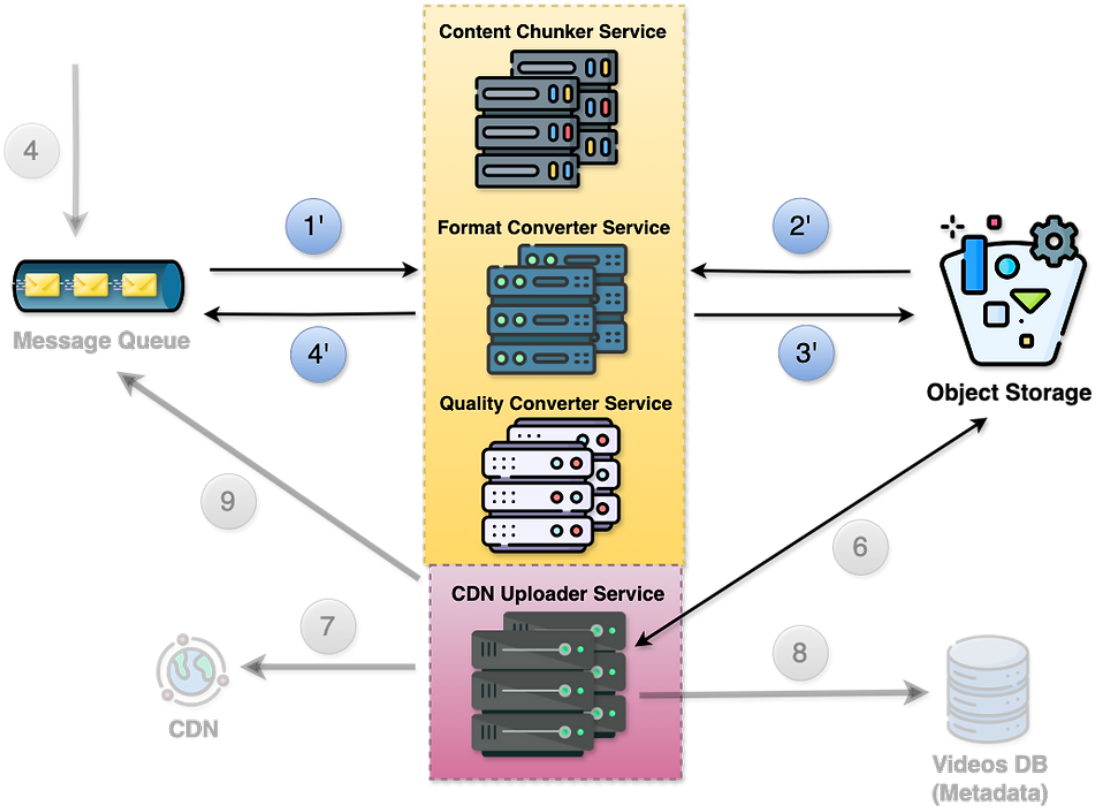
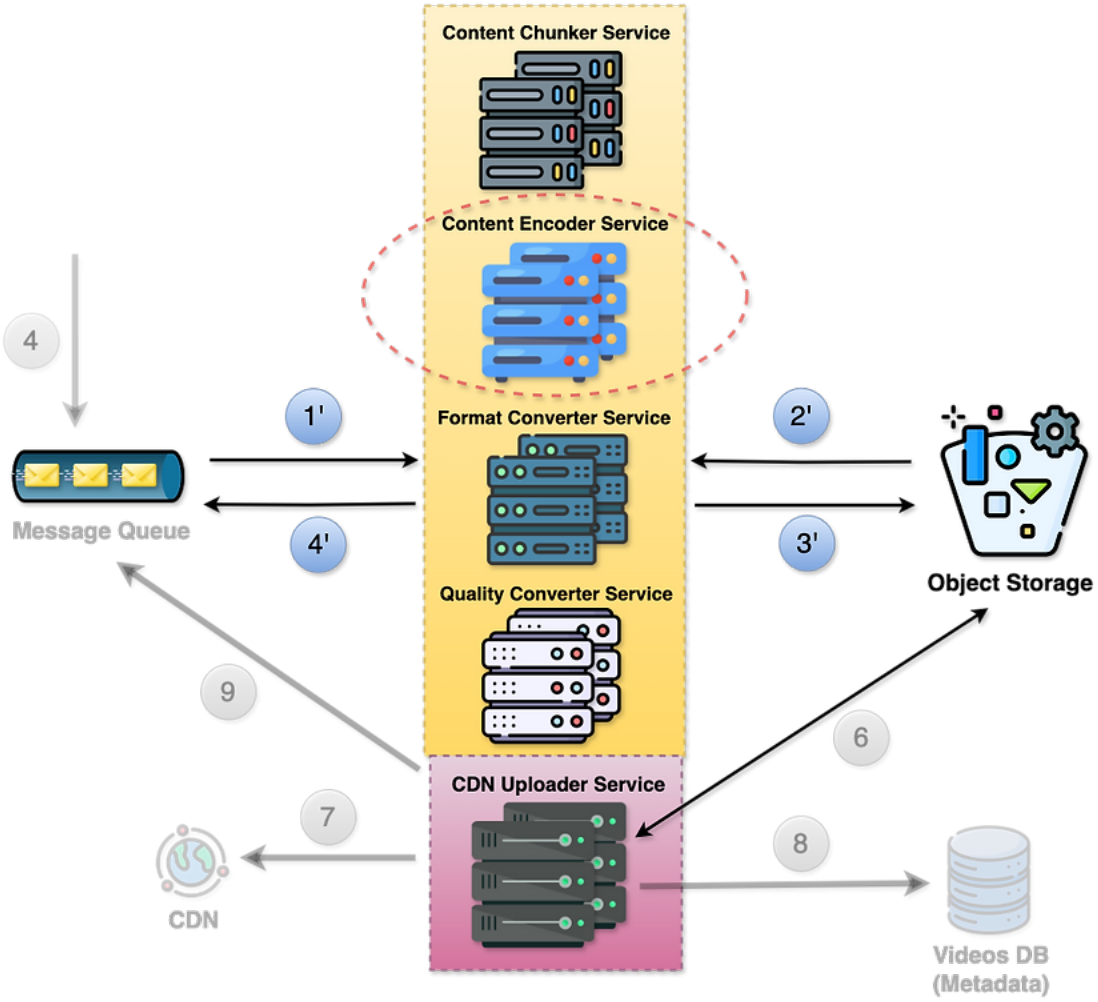
Video's DB Schema

Videos DB (Metadata)

```
{
  "videoId": "unique_video_id",

  // Technical Metadata
  "format": "mp4",
  "duration": "length_of_video_in_s",
  ...

  // General Metadata
  "creatorId": "creator_id",
  "title": "video_title",
  "description": "video_description_text",
  ...


  // Content Delivery Metadata
   "cdnUrls" : {
      "MP4": {
          "4K": ["chunkurl1", "chunkurl2", ...],
          "720P": ["chunkurl1", "chunkurl2", ...],
          ...
      }
      "MOV": {
          "4K": ["chunkurl1", "chunkurl2", ...],
          "720P": ["chunkurl1", "chunkurl2", ...],
          ...
      }
      ...
   }
}
```

Chunking Workflow