

## User-Layer

### User-Module

Banwidth Estimator

Expected Bandwidth

Segment requester

Playback Buffer

Buffer state

## Edge-Layer

### MEC-Server A

Metrics Collector

Pred. Features

Segment/  
Quality Predictor

Request Handler

Cache

Local cache manager

## Backbone-Layer

### EPC-Server

Global Content Manager

RAN-Metrics

Requested Segment  $s_k$

Served Segment  $s_{k-1}$

Predicted Segment  $s_{k+1}$

Central-to-Local segment  $s_{k-1}$

Cache Update

Remote-to-Local segment  $s_{k-1}$

Local-to-Remote segment  $s_{k-1}$

MEC-Server B

----- Mutually exclusive