# Kaltura video streaming ecosystem

Recommended choice for *Krajowy Magazyn Danych*, *PIONIER Consortium* and other projects

# Kaltura video streaming ecosystem

- **Video player** (JavaScript, open source)

- **Video platform** (commercial)

  - Kaltura Management Console,

  - Kaltura Edge Servers,

  - other applications and integrations.

# Kaltura Player features

**Most important features**

- **Modular** framework:

  - based on playkit-js library,

  - Includes HLS and DASH JS libraries,

- **Configurable** dynamic UX/UI via JSON parameter/values, including player controls, volume, icons, etc.

- **Rich functionality** with configuration options, adaptive bitrate, multiple audio, subtitles in WebVTT.

# Why Kaltura player?

- Configuration, flexibility,

- Good API documentation,

- Works smoothly with live streams and VoDs produced by ffmpeg,

- Large community of users still in place, software still developed, project not dead.

**Conclusion:**

Kaltura Player is a good choice for a low-cost in-house developed and self-hosted video platforms based on WordPress.
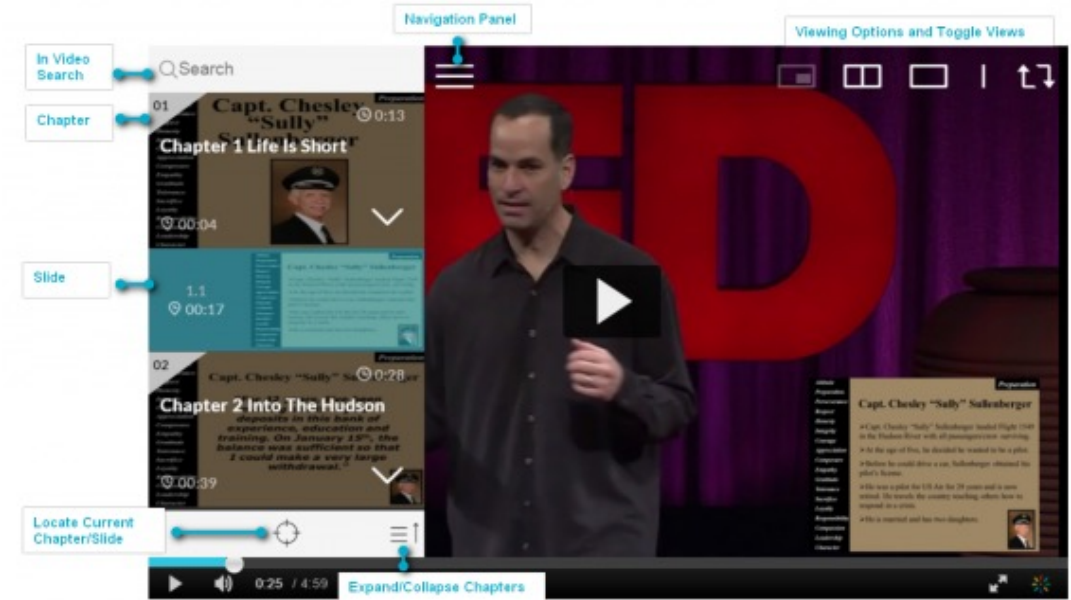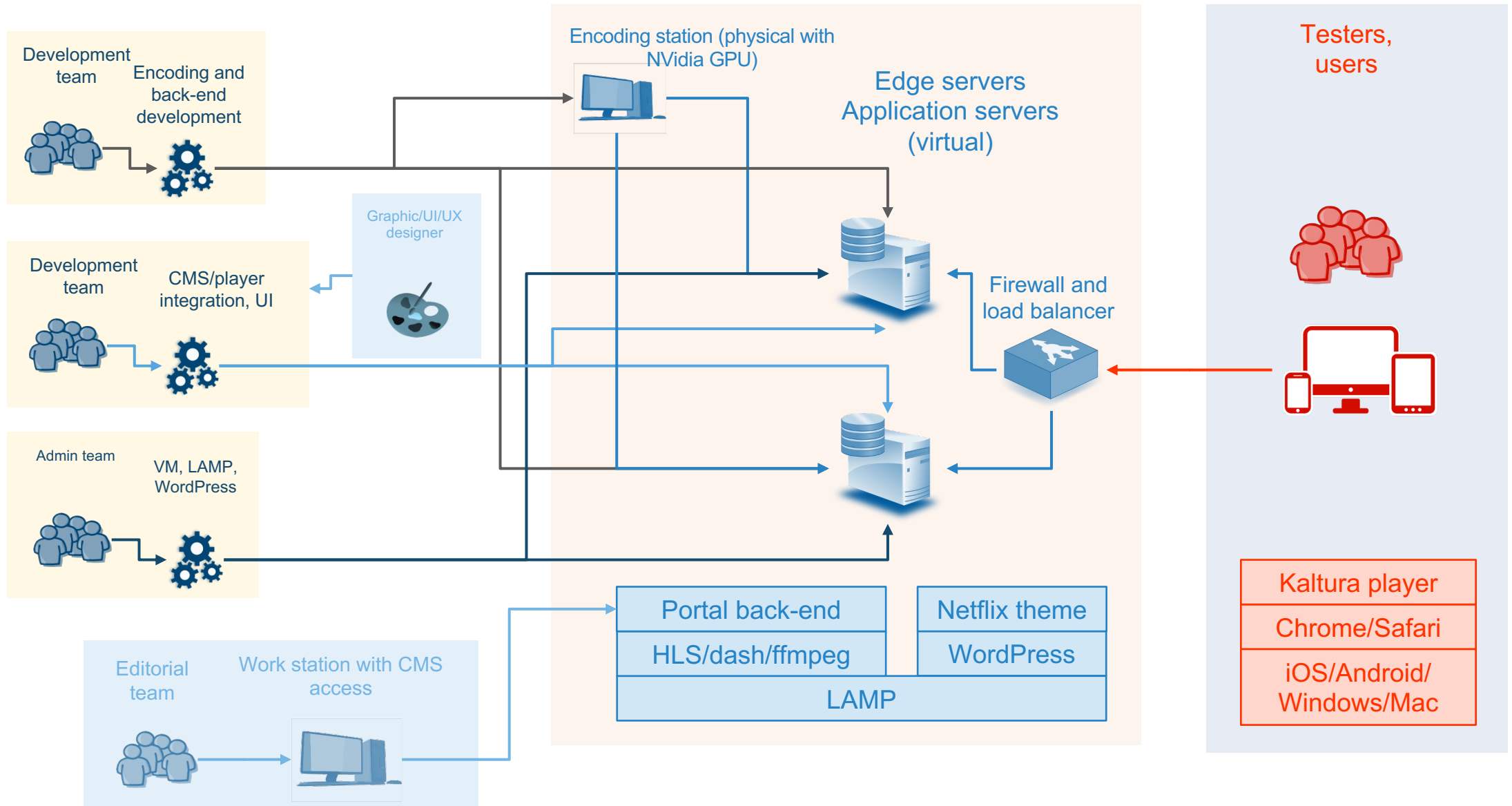
# Where Kaltura player?

We found Kaltura Player is a good choice for:

- low-cost,
- in-house developed,
- self-hosted video platforms based on:
  - own video workflow (ffmpeg, metadata database)
  - WordPress CMS

Example services developed by PSNC:

https://video.poznan.pl

https://pionier.tv

# Own platform - work diagram

Krajowy Magazyn Danych

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Development team — Encoding and back-end development

Development team — CMS/player integration, UI

Graphic/UI/UX designer

Admin team — VM, LAMP, WordPress

Editorial team — Work station with CMS access

Encoding station (physical with NVidia GPU)

Edge servers
Application servers
(virtual)

Firewall and load balancer

Testers, users

Portal back-end
HLS/dash/ffmpeg
Netflix theme
WordPress
LAMP

Kaltura player
Chrome/Safari
iOS/Android/Windows/Mac

## Own platform
### – video workflow
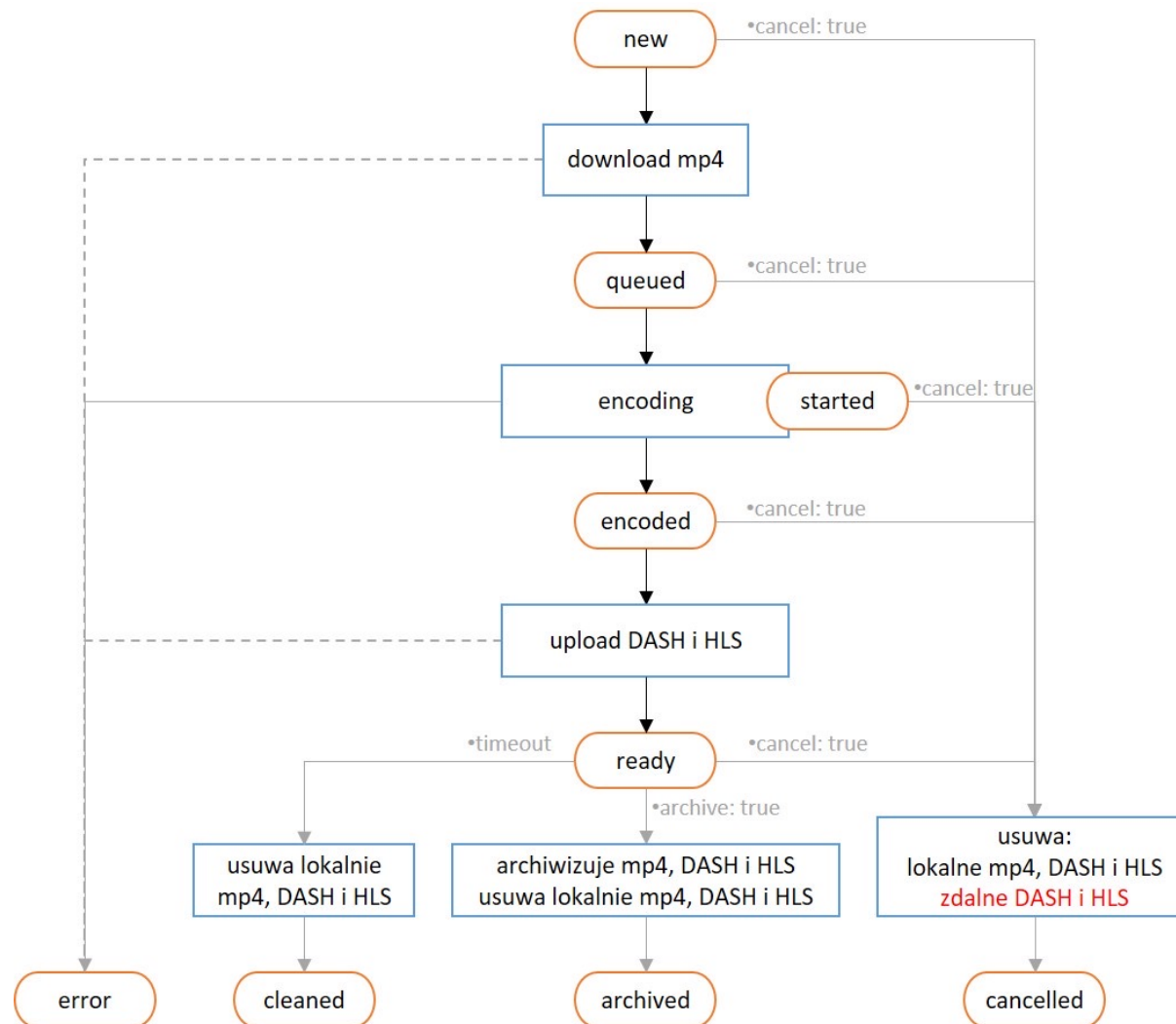
# Simple video platforms based on WordPress
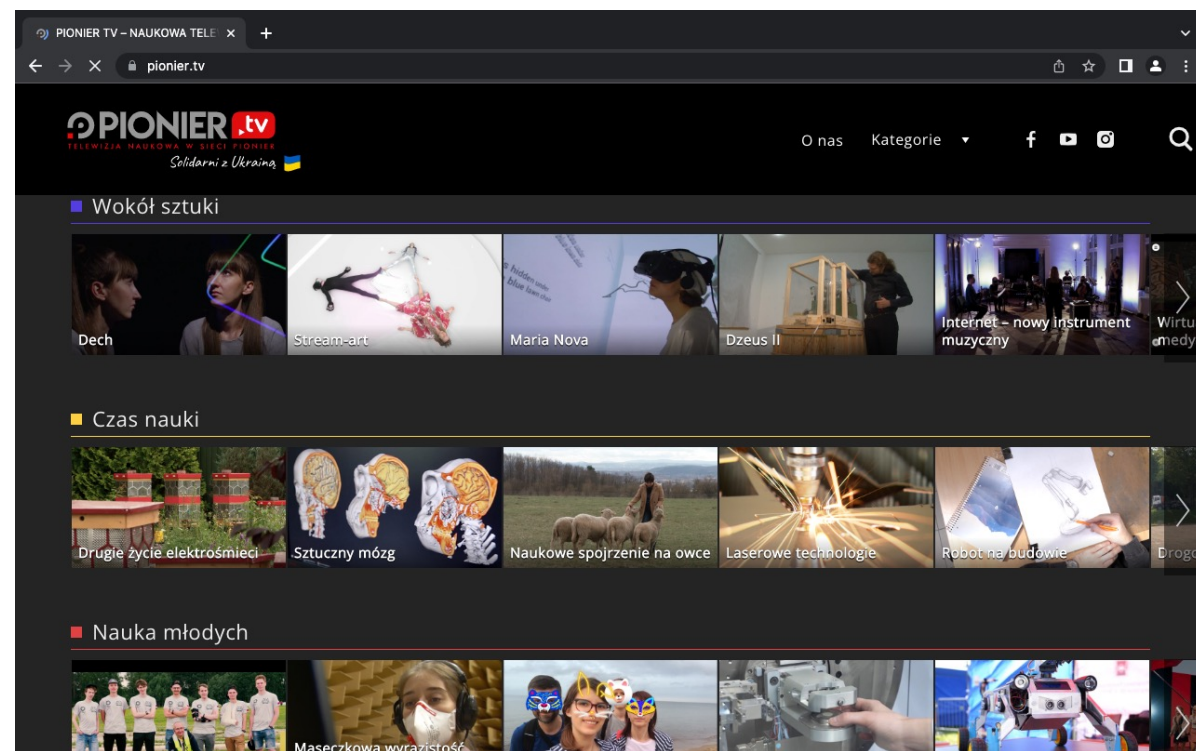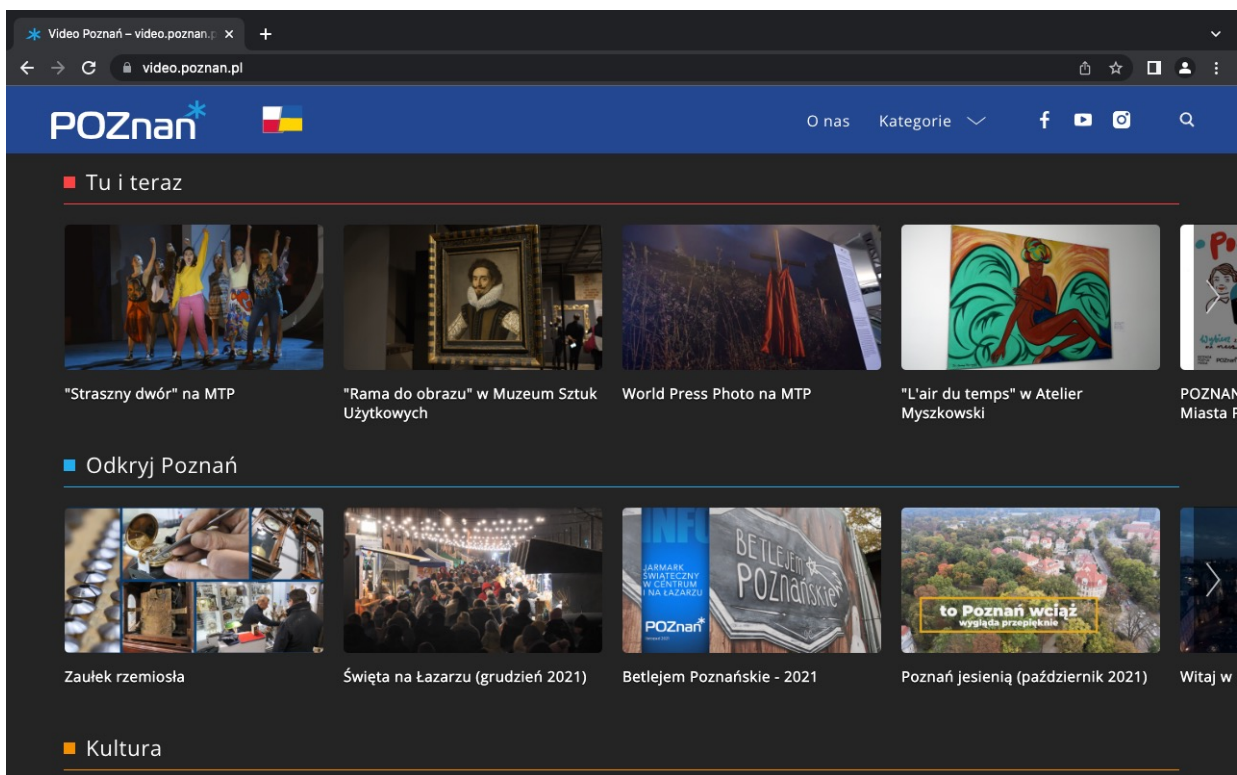
# Kaltura player example in WordPress

# Kaltura commercial platform

**Kaltura commercial solution rationale**

- If you need a big workflow for a number of clients - more than just a player embedded in our own small platform,

- If you have limited resources for own-platform development and support

- If you need a 3rd party cloud.

# Kaltura Platform main cooperation models

- **VPaaS (aka Cloud)** – third party clouds and CDNs, no own infrastructure,

- **Hybrid** – some elements on own infrastructure,

- **On-premise** – fully on own infrastructure, no third party partners, own edge servers; for big entities such as universities, corporations, banks, etc.

# Kaltura Platform cooperation models



Kaltura Deployment Options

# Kaltura model recommended for KMD3

- **On-premise** model recommended due to:

  - large infrastructural expenditures

  - number of potential clients above 5

  - two data centers involved in this part of the project: PSNC and LodMAN


  **Kaltura will not recommend on-premise model for less than 5 clients (instances).**
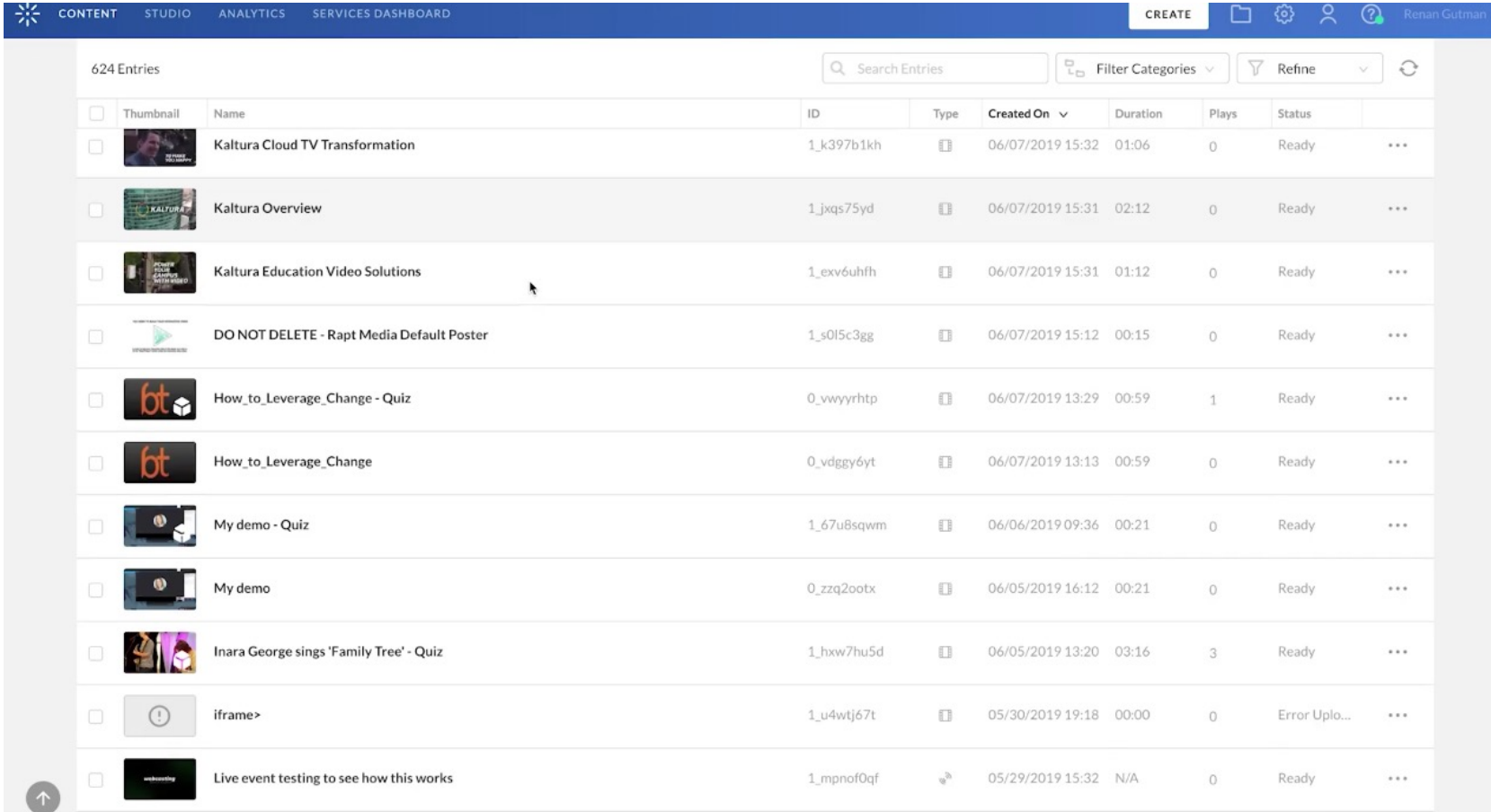
# Kaltura Management Console

- Plays the role of MAM (Media Asset Management) system

- Functions:
  - User and workflow administration,
  - Ingest, metadata creation, publication,
  - Distribution, transcoding, player configuration,
  - Analysis.

Fundusze
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# Kaltura Management Console

Asset management

# Kaltura Management Console

Encoding profiles management

# Kaltura Management Console

Tool for visual player configuration
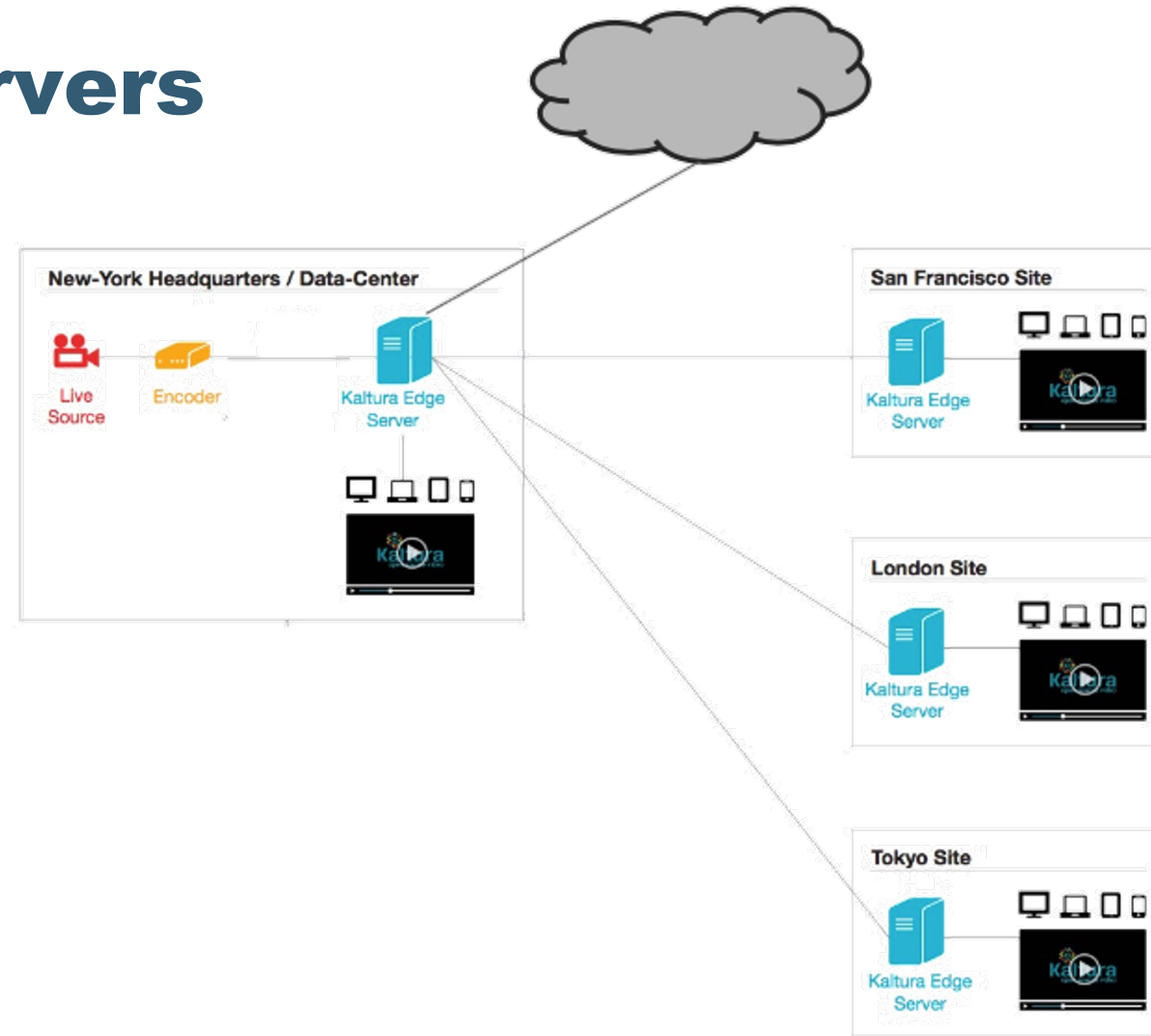
**Krajowy Magazyn Danych**
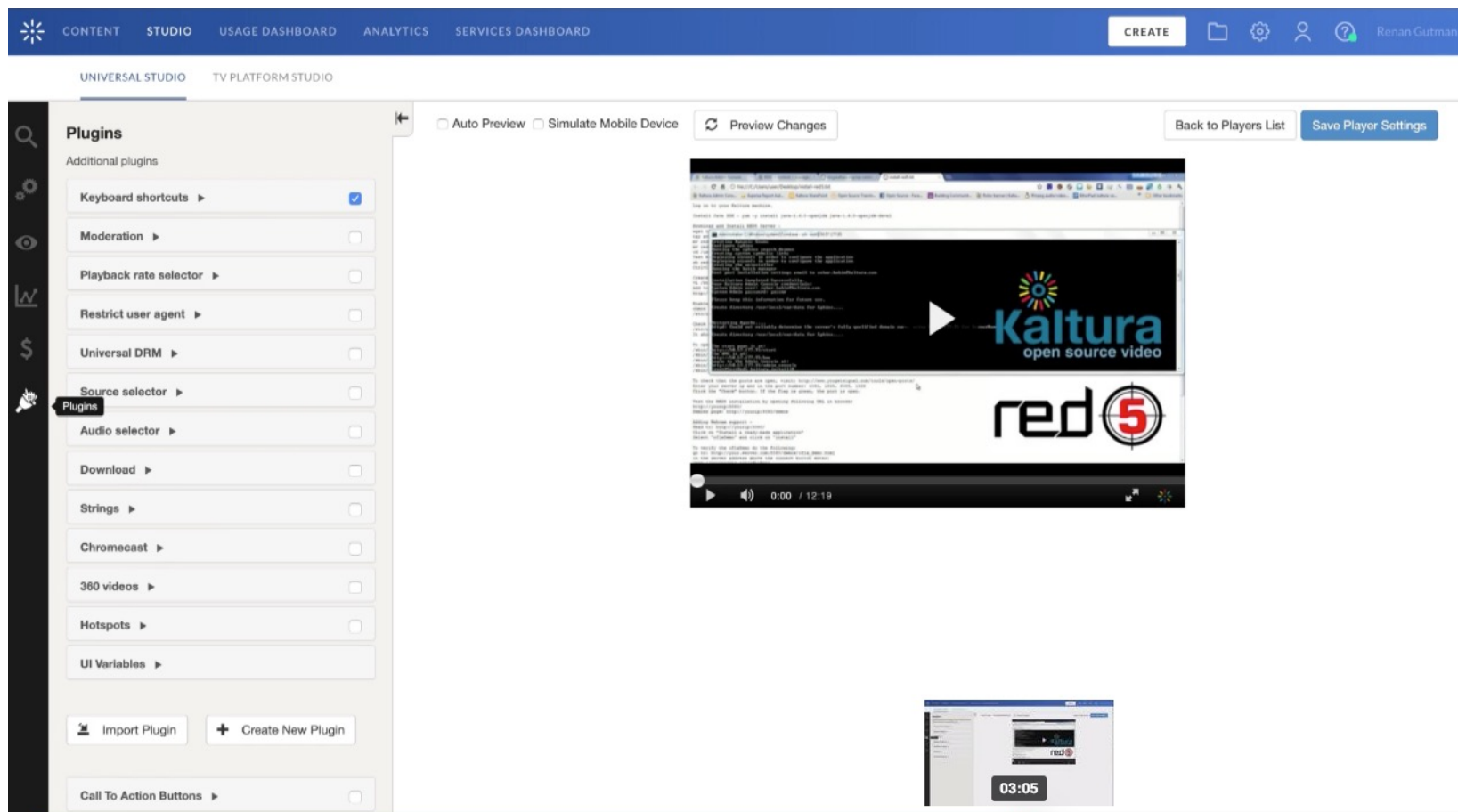
# Kaltura Management Console

Analytics
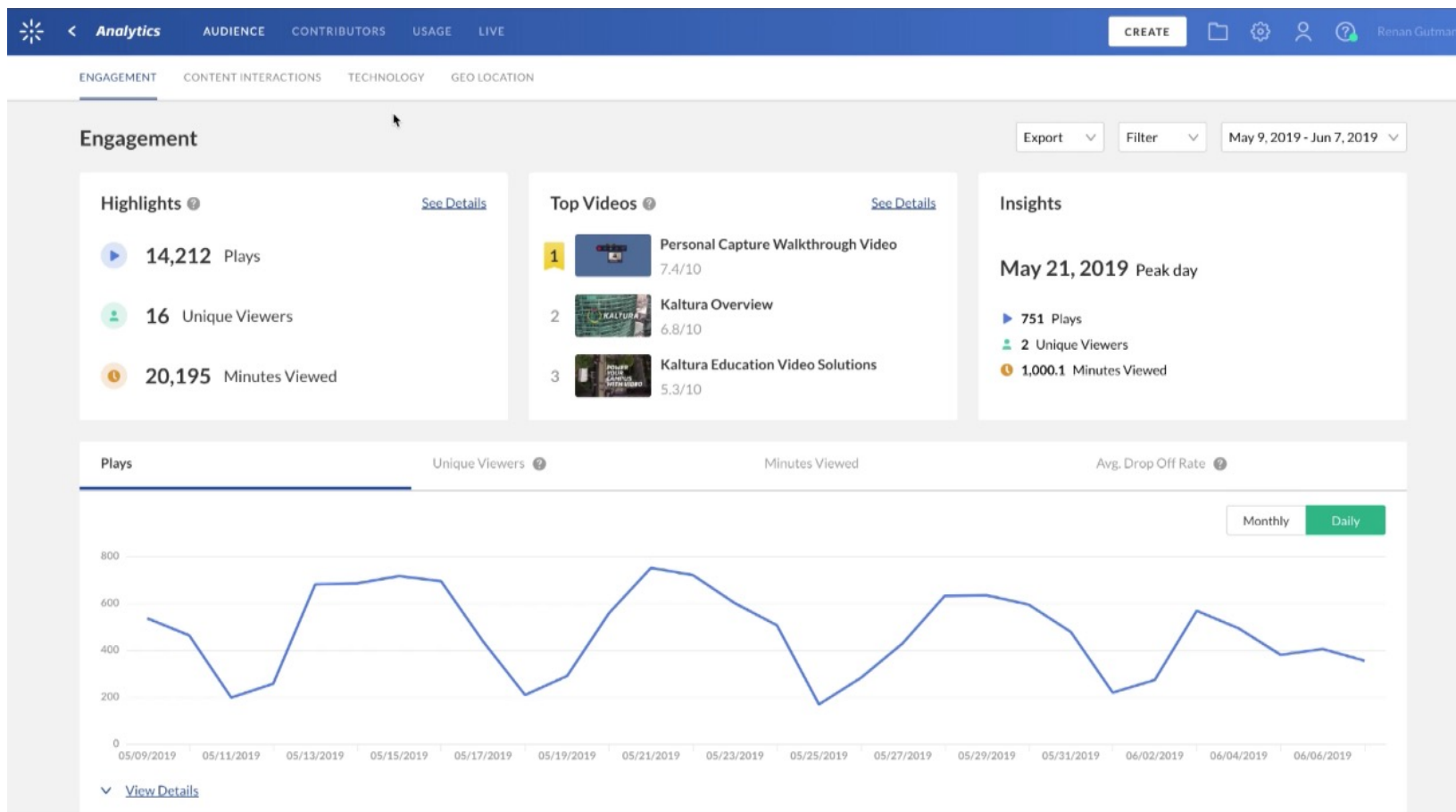
# Kaltura Edge Servers

located in remote locations or in
close proximity to viewers

# Technical challenges

- **Object storage** – in KMD3 project object storage interface S3 is assumed to access the infrastructure,

- Kaltura only supports NFS,

- Currently analysis with KMD project:
  - how to integrate NFS with S3 using
    - CEPH gateway or
    - S3FS-FUSE
    - ObjectiveFS

- Kaltura system will be given a separated S3 data bucket.

# Thank you

Task 2.5 in KMD3 project:

https://docs.psnc.pl/pages/viewpage.action?pageId=66324936