



# Video Management with Opencast at ETH Zurich

Multimedia Services (ITS MMS), Production and Distribution (PD)

# Video Management with Opencast at ETH Zurich

## Multimedia Services

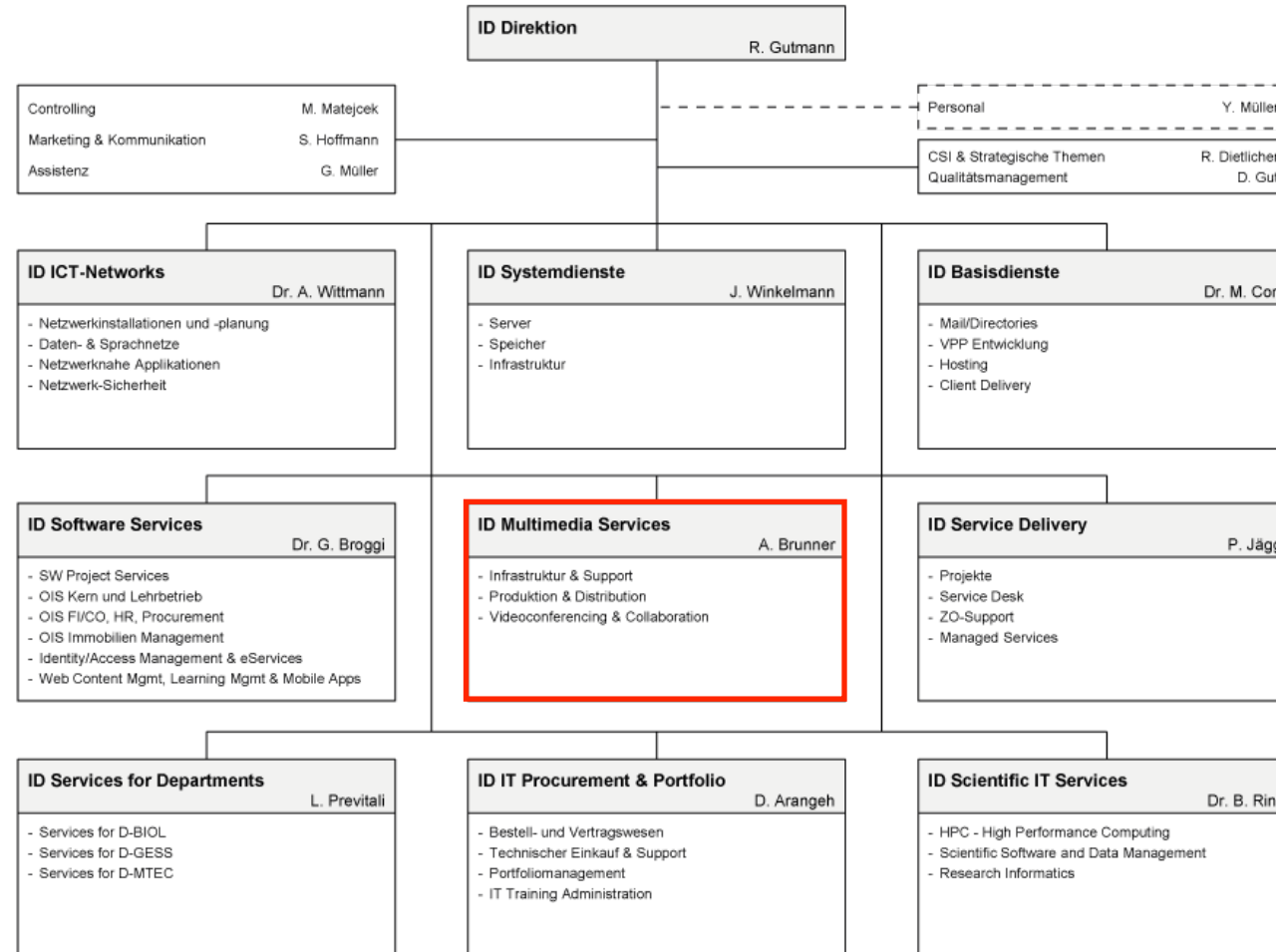
- Services provided
- Ressources invested
- Experience so far
  
- Q&A

and/or

- more **Opencast** (history and background, structure)

# Multimedia Services

# Multimedia Services



# Multimedia Services

- Videoconferencing & Collaboration (MMS VC)
  - Infrastruktur & Support (MMS IS)
  - Produktion & Distribution (MMS PD)
- 
- 21 employees, 17.5 FTE
  - Budget: 5 Mio. CHF approx.

## Multimedia Services – Production and Distribution (PD)

- 10 employees, 8 FTE
  - Budget 1.5 Mio. CHF
  - 2/3 labour costs
- 
- Assistants (external): >10 people
  - Freelancer (A/V-production): 4 people/companies

## Services provided

- Audio- and videoproduktionen
- Event recording
- Course recording
- Transmissions
- Distribution
- Others

# Audio- and video production (films)

- Image film
  - Documentation
  - Trailer/Teaser
  - Experiments
  - Interviews
  - Statements
  - Video for teaching and learning
  - Etc.
- 
- 20-30 videos p.a.



# Audio- and video production (studio)

- Video for teaching and learning (MOOC)
  - Tablet
  - Visualizer
  - Others
- Interviews, statements
- Panel discussion
- Greenscreen
- Etc.







## Event recording

- 2 mobile HD units
- 2 assistants
  
- 60 events p.a.

# Course recording

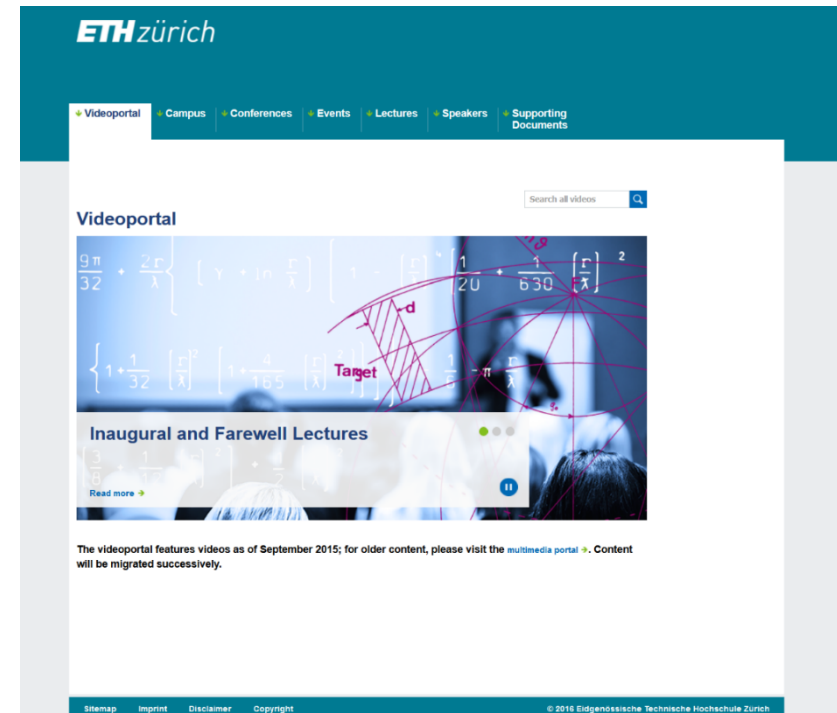
- Capture agents in 26 lecture halls
  - Highly automated
  - Full service!
- 
- 60-70 lectures/week (semester)

# Transmissions

- Infrastructure in 3 buildings (9 lecture halls)
- 1 assistant (camera)
- Blackboard
- Overhead projection
- Computer
- Document camera
- Tablet
- Ca. 35 lectures/week

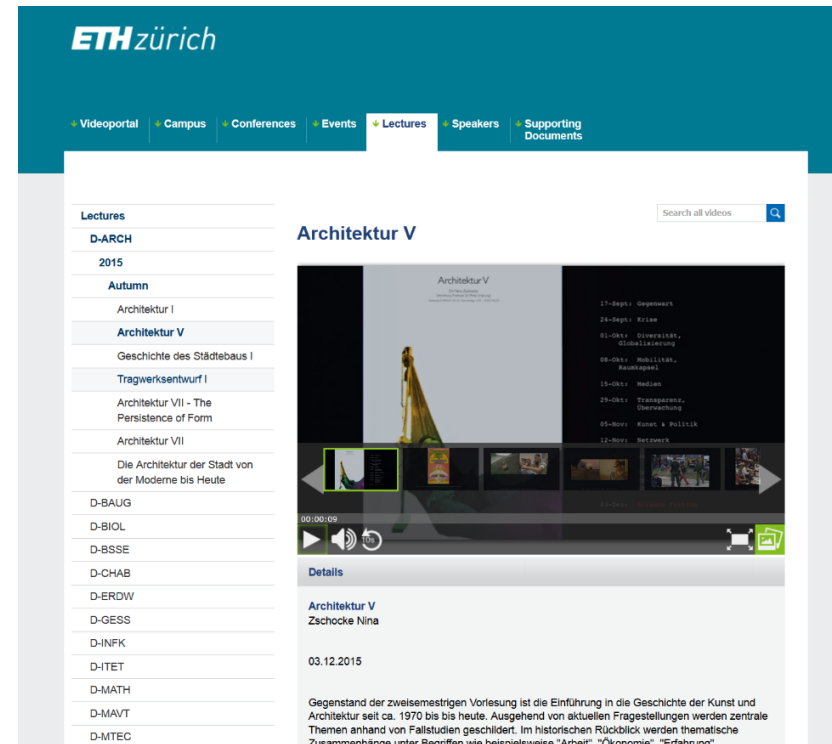
# Distribution with Opencast

- Video portal
  - Built in CQ5/AEM (ETH CMS)
  - Paella Player, HTML5
  - OAI-PMH



# Distribution with Opencast

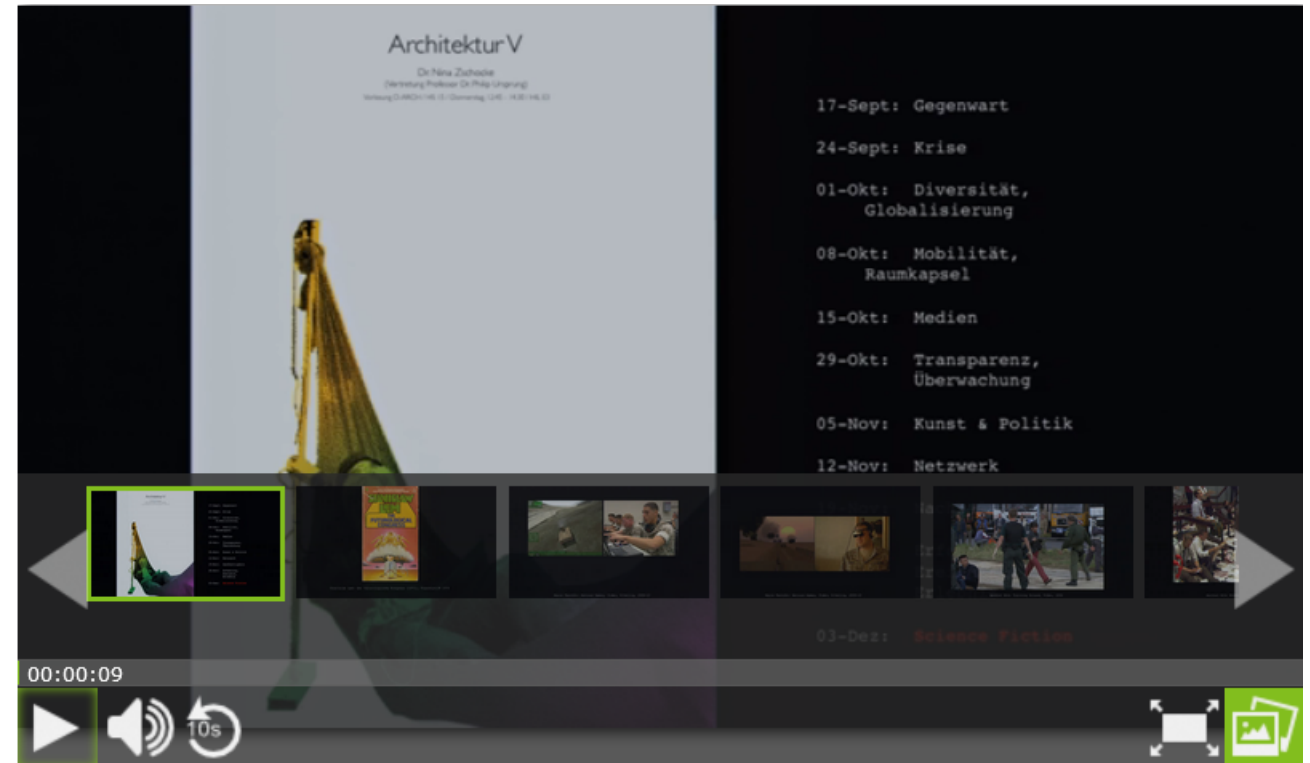
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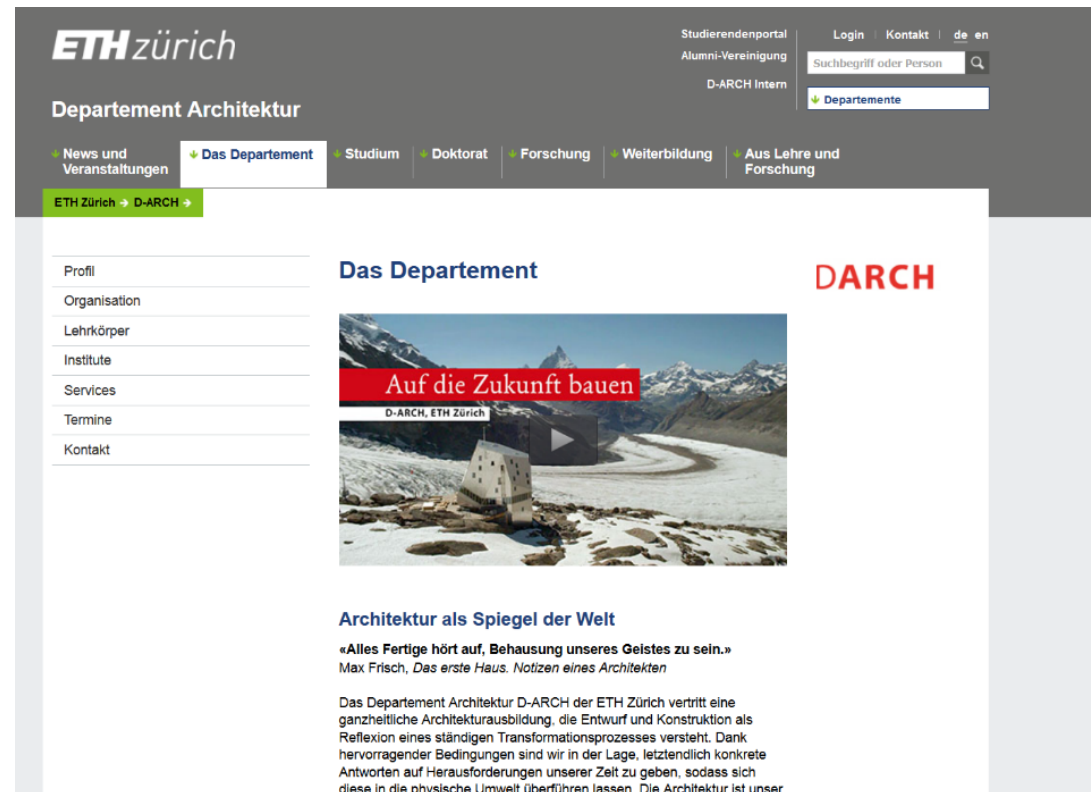
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# Distribution with Opencast

- Video portal
  - Built in CQ5/AEM (ETH CMS)
  - Paella Player, HTML5
  - OAI-PMH
- CMS
  - JW Player, HTML5
  - OAI-PMH



# Distribution with Opencast

## ■ Video portal

- Built in CQ5/AEM (ETH CMS)
- Paella Player, HTML5
- OAI-PMH

## ■ CMS

- JW Player, HTML5
- OAI-PMH

## ■ LMS

- JW Player, HTML5
- Manually (!)

### Ökonomie 2015

◀ Aussenwirtschaft (für PV  
am 25.11.2015)

Tutorials ▶

#### Geld und Inflation (für PV am 25.11.2015)

Geld und Inflation: Wie werden Waren- und Geldströme zwischen In- und Ausland erfasst? Welche Funktion soll Geld erfüllen, wie viel gibt es davon und hat Geld immer den gleichen Wert?

Lernziele:

- Definition und Arten von Geld kennen
- Geldschöpfungsprozess verstehen
- Inflation und Deflation: Definition und Möglichkeiten der Messung kennen
- Inflation und Deflation: Konsequenzen, Ursachen und wirtschaftspolitische Ansatzpunkte verstehen
- Geldpolitik verstehen

#### Intro Geld und Inflation



Your progress ⓘ



#### Material

##### Skript

Geld und Inflation



##### Statistiken und Summary

Summary Geld und Inflation 64.9KB PDF document

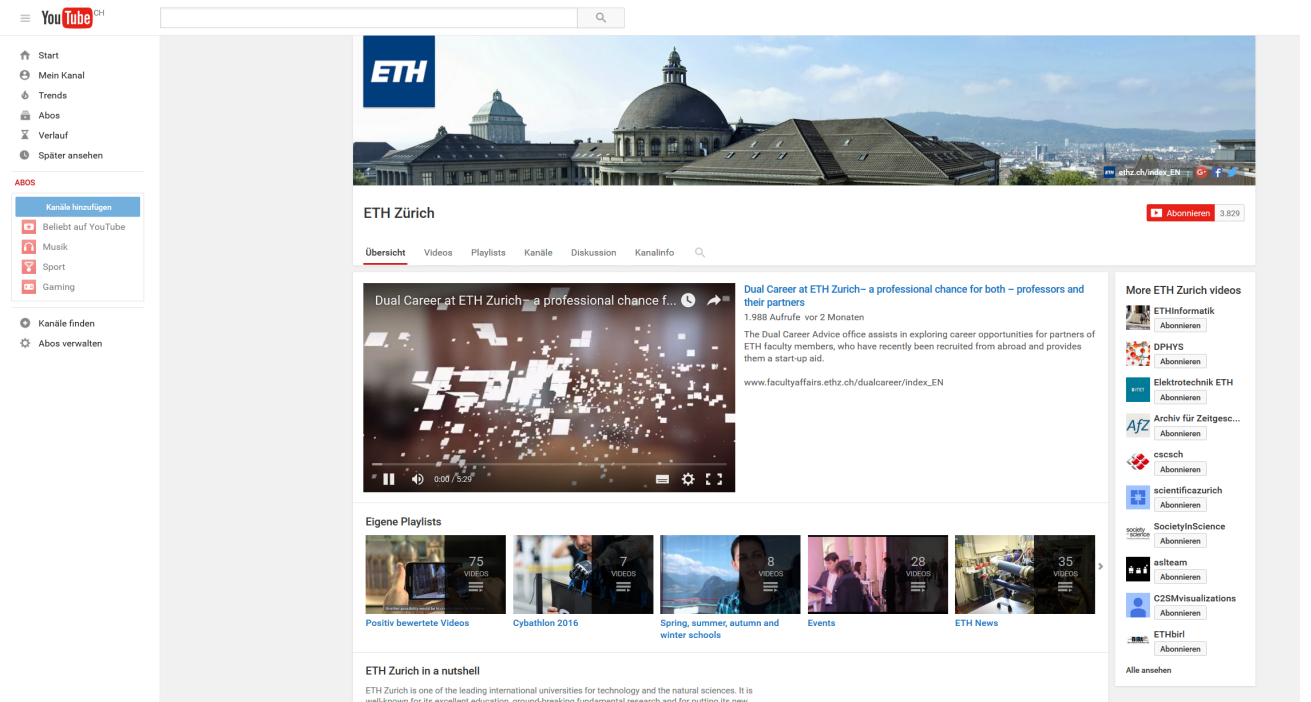


Statistiken Geld und Inflation 371.6KB PDF document



# Distribution without Opencast

- Videowalls
- Digital Signage
- CIFEX, Polybox, USB-Sticks etc.
- edX
- YouTube



# Volume of video management (Opencast)

## Video portal

- 2,000 videos p.a.
  - 60-70 lecture recordings per week (semester)
  - 10 event recordings per week

## CMS (CQ5/AEM)

- 100-200 videos p.a.

## Moodle

- 100-300 videos p.a.

# Volume of video management (Opencast)

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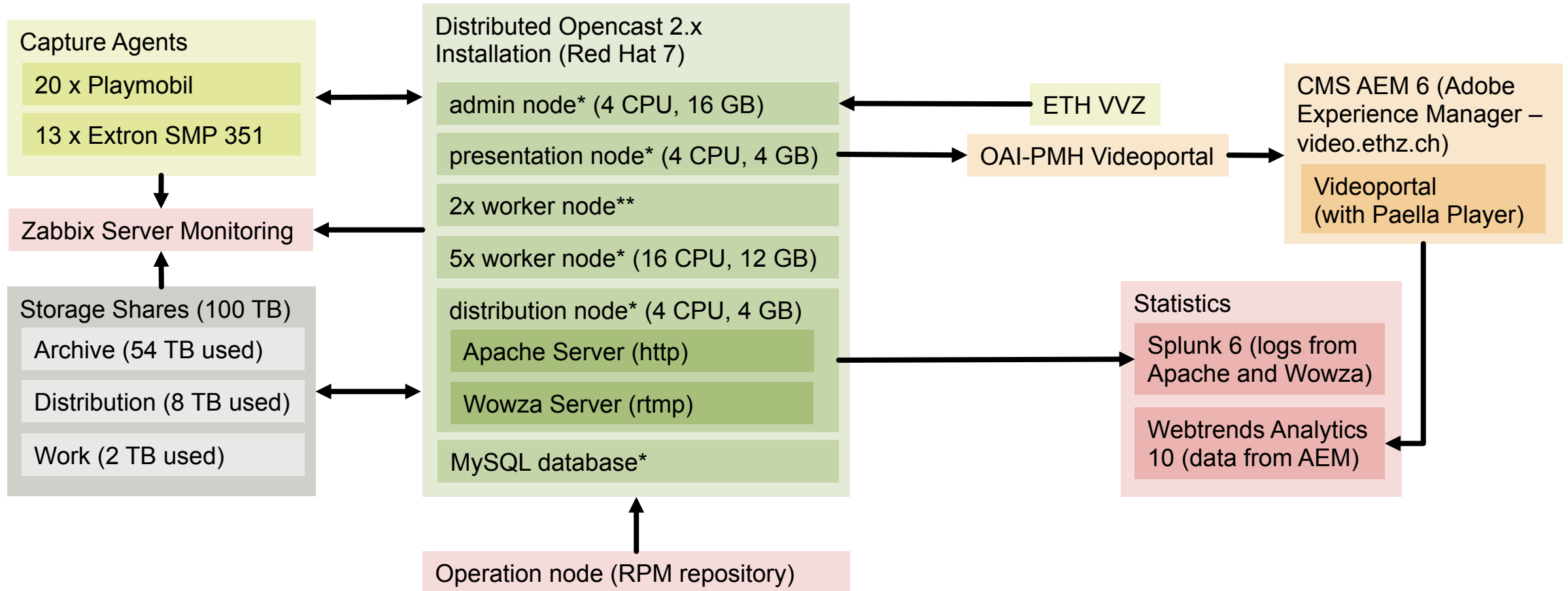
## Moodle

- 100-300 videos p.a.

## Archive

- > 10,000 videos (since 2006)

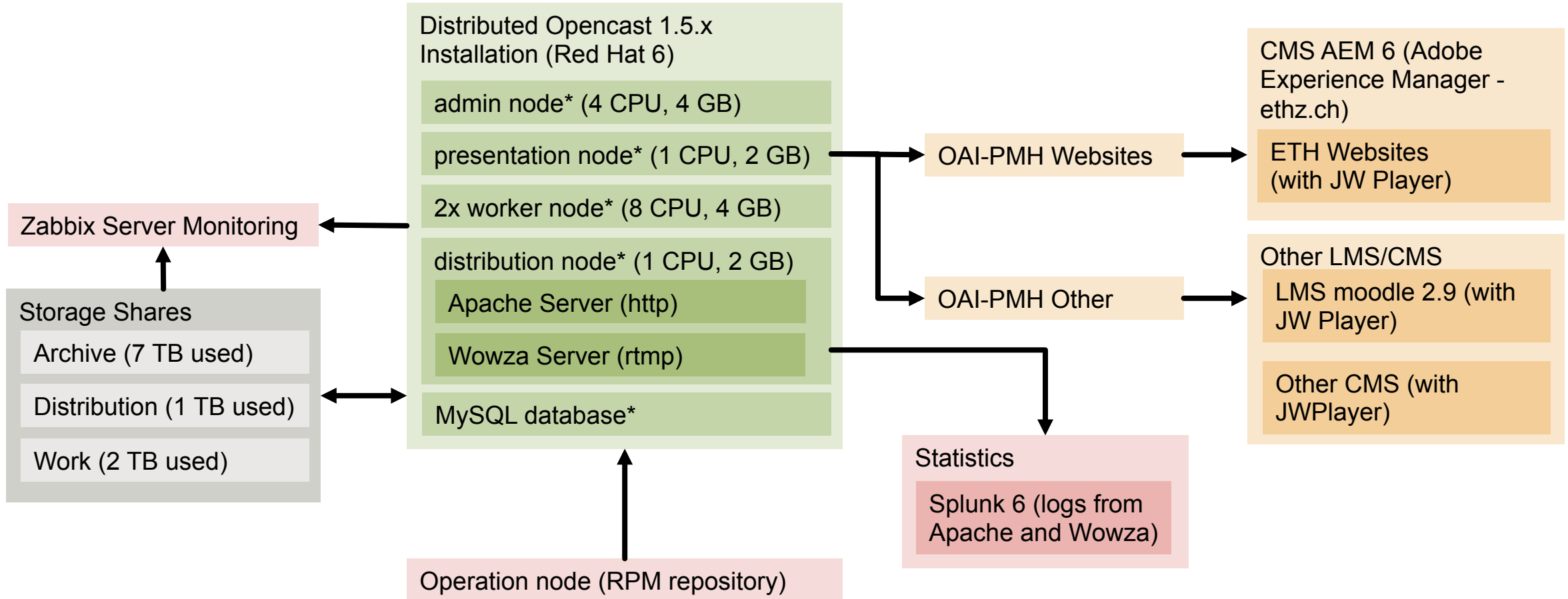
# Opencast 2.x infrastructure for video portal



\*virtual server (Vmware vSphere ESX/ESXi)

\*\*physical server (HP ProLiant DL380 Gen9 with 2x Xeon E5-2690 total 28 Cores, 500 GB)

# Opencast 1.5x infrastructure for CMS & LMS



\*virtual server (Vmware vSphere ESX/ESXi)



## Services vs. resources (approx.)

- Audio- videoproduction: 2.5 FTE (plus freelancer)
- Event recording: ca. 0.5 FTE (mainly assistants)
- Course recording: 1 FTE (semester mainly)
- Transmissions: 0.5 FTE (assistants mainly)
- Distribution: 1 FTE
- Studio: 0.5 FTE
- Others / adiministration, communication: 2 FTE

## Video management / Opencast (approx.)

- System administrator (application admin) 1.0 FTE
- Video managers (daily business) 0.2 – 1.0 FTE
- General management, communication 0.1 – 0.5 FTE
- Infrastructure (capture agents) 0.2 FTE
  
- Backend infrastructure (server, shares) 50-200kFr p.a. (nominal)
  
- Support (Extron) kFr p.a.
- Software development (N.N.) kFr p.a.

# The Opencast 2.x experience

- 2015 autumn semester was very tough due to circumstances
  - new 2.x version
  - new video portal
  - new CA firmware (Extron)
  - new integration with syllabus (VVZ)
- Pressure to switch (Flash, support contract, politics)

# The Opencast 2.x experience

- 2016 spring semester works well
  - very reliable
  - video editor reduces handling time significantly
  - searching the Admin UI needs some expertise with filters
- Remaining issues with
  - metadata
  - minor features (UI); cf. quality booster
  - OAI-PMH (video portal?)

# Opencast goals for ETH

- Streaming security
- External API
- LMS plugin
- Rights management

# Q&A – or more Opencast?

# Opencast

# History and background

- Until 2005: Play (SWITCH & ETH)
- 2005-2010: Podcasting
- Until 2010:
  - SWITCHcast (SWITCH): Proprietary
  - REPLAY (ETH): Open Source



# Opencast history

- 2007                      Kick-off at UC Berkeley

# The Opencast idea(s)

- Open (Broad-)Cast
  - Open Source
  - Open Technology
  - Open Formats
- 
- Open Content
  - Open Exchange

# Opencast Community

Federation of institutions and people

- concerned with academic video
- attracted to the Opencast idea
- exchanging ideas, experience, and knowledge
- committed to building an Open Source solution putting into effect the OC idea

## Opencast...

... is a free, open-source platform to support the management of educational audio and video content.

Institutions will use Opencast to **produce** lecture recordings, **manage** existing video, serve designated **distribution** channels, and provide user interfaces to **engage** students with educational videos.

# Opencast history

- 2007 Kick-off at UC Berkeley
- 2009 - 2010 Funded development of Matterhorn 1.0 (Hewlett, Mellon) with 13 institutions

# **(Academic) Video Management System**

- Lecture capture
- Video ingest
- Processing
- Management
- Distribution
- User interface

## Opencast history

- 2007 Kick-off at UC Berkeley
- 2009 - 2010 Funded development of Matterhorn 1.0 (Hewlett, Mellon) with 13 institutions
- 2010 – 2011 Downsizing
- 2011 – 2013 (Re-) Establishing as Open Source Project
- 2014 - 2015 From Matterhorn to Opencast 2.0, joining Apereo, Entwine acquired by Extron

## Opencast community

- Board: Governing body
- Committers: Leading development
- Institutional leads: Coordinating
- Loose cooperations with various CA vendors
- Stronger in Europe, German-speaking countries especially
- Supports various related projects (Paella video player, LectureSight camera tracking, learning analytics etc.)



## Benefits

- [illegible]

## Opencast 2016

- 2.2 on schedule
- Community effort “Quality booster” crowd-funded (SWITCH)
- Decrease in velocity lower than expected
- Opencast summit in Cologne with 100 participants

### Goals

- New governance documentation, board elections
- Stronger coordination of institutional leads (DACH especially)