New Weblecture Postprocessing Service

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Agenda

- User experience: From → To
- Grounding & Goals
- Global view of the architecture
- Central Encoding System (**CES**) & **CERN Video Player** by *Rene*
- **Opencast** integration by *Miguel Angel*
- Conclusions

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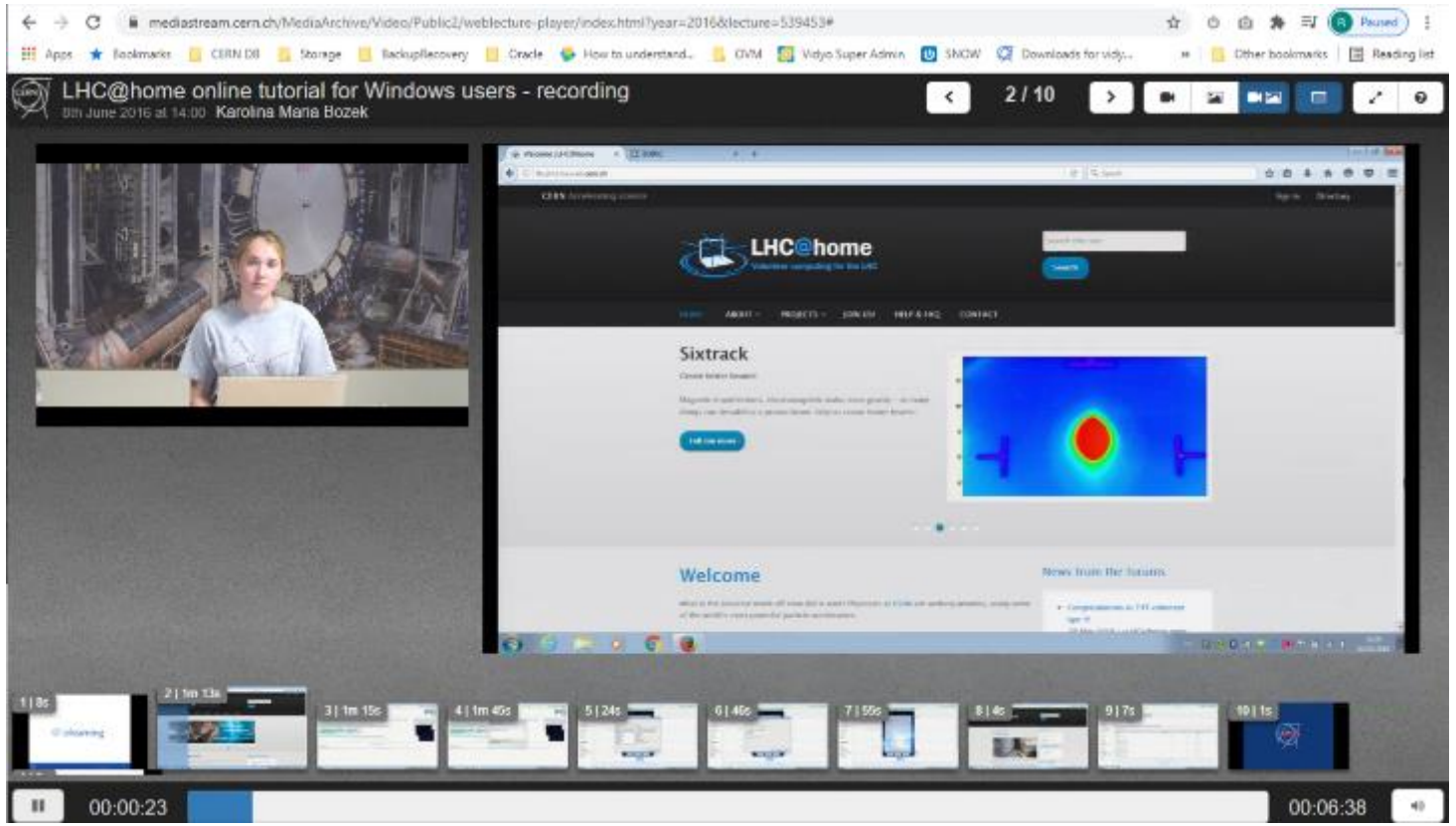
User experience: FROM

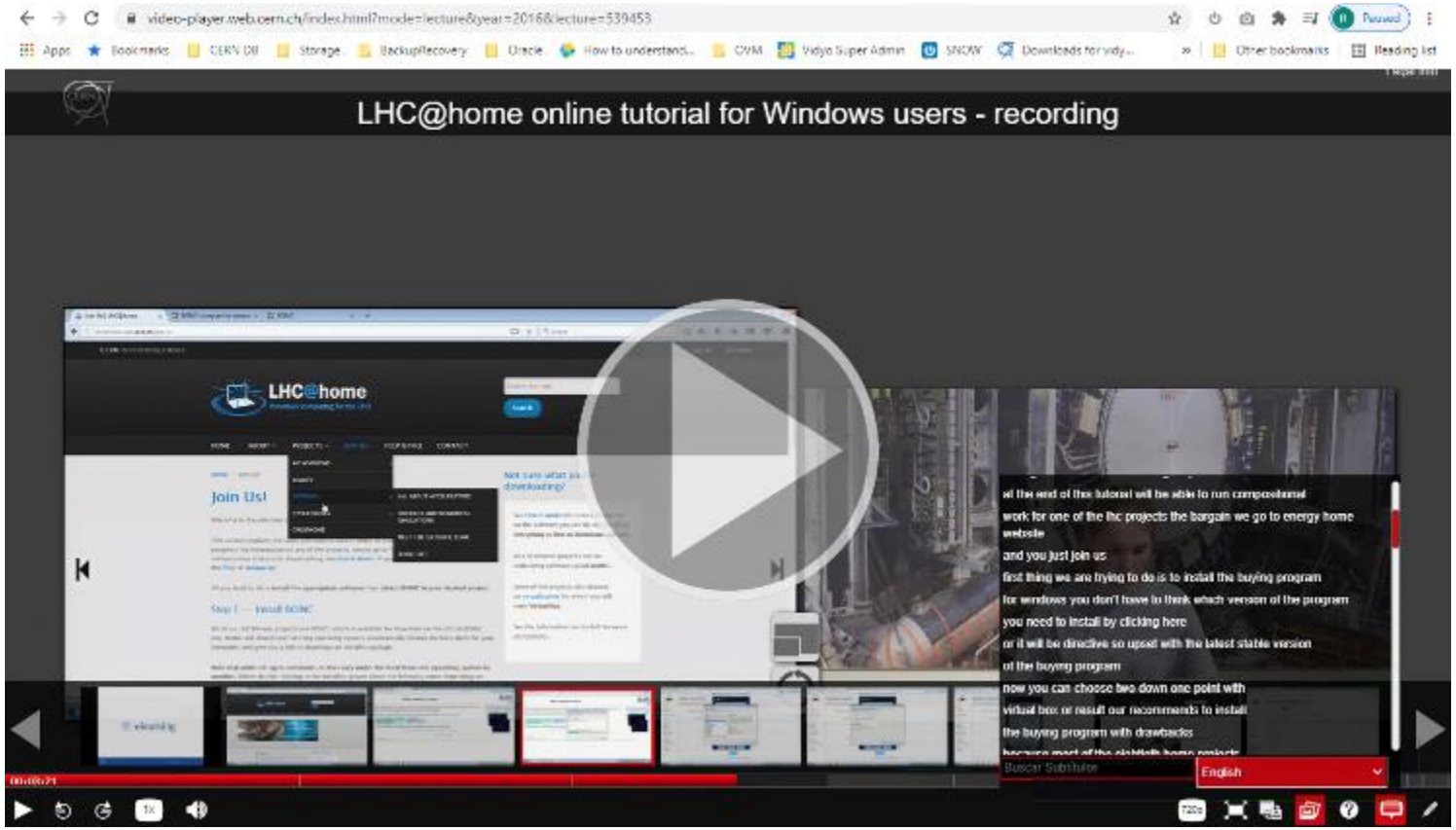
https://mediastream.cern.ch/MediaArchive/Video/Public2/weblecture-player/index.html?year=2016&lecture=539453

- Accessible from CDS/Indico or standalone
- Windows based (IIS)
- Windows security (NTFS based)
- Commercial player: Theoplayer
- DFS



User experience: TO

- https://video-player.web.cern.ch/index.html?mode=lecture&year=2016&lecture=539453



- Accessible from CDS (on progress) or standalone
- Linux based (Apache)
- New SSO
- Paella player (FOSS, in prod Webcast since April 2020)
- CEPHFS

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Grounding

- **Old stack** very poorly maintained throughout the years and aging
  - Many support cases
  - Difficult lib/python version upgrades e.g. SSL issues
  - No qa/master
  - Software aging: Best solution in the past (10+ ago) is not the best solution today.
  - Software aging: **Difficult** to **maintain or add** new functionality.
  - No documentation on some parts, poor in others.
- **Transcoding** servers maintained in a best effort mode (Sorenson company disappeared on ~September 2018)
  - **New** (even not that new) **video formats** and **resolutions** not well supported by the system (2K, 4K…) leading to processing errors.

Goals

- Improve **user experience**: SSO, scalability and reliability of the infrastructure, time response for lectures, new functionality,..
- Find **alternatives** to the oldest system parts that fulfills nowadays requirements: CES, Micala, Transcoding infrastructure, weblecture-player, DFS – storage, Windows IIS servers, PCencoders,…
- Rely on a **FOSS** project(s) if possible
  - **Divert** from **upstream** the **less** possible
  - **Flexible** solution (we should be able to use just part of its functionality) that shouldn't shadow existing IT services e.g. CDS.
- Ease integration with **accessibility** features e.g. ASR
- Use as much as possible **IT infrastructure:** Openshift, new SSO, Openstack, etc
- Less and easier maintenance, hopefully
- Improve reliability, reduce processing errors but **provide better tools** to manage/debug the system e.g. central logs repository, Rundeck, Grafana
- **Standardize app structure** using common technologies across solutions
- Reduce costs

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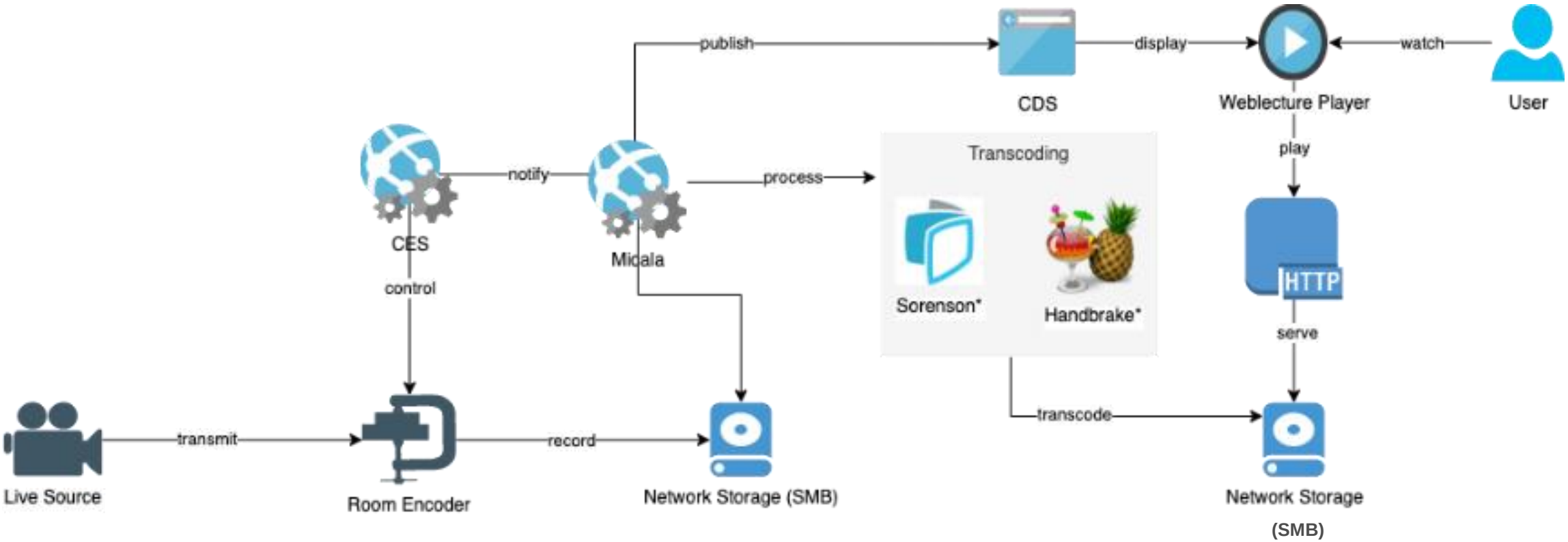
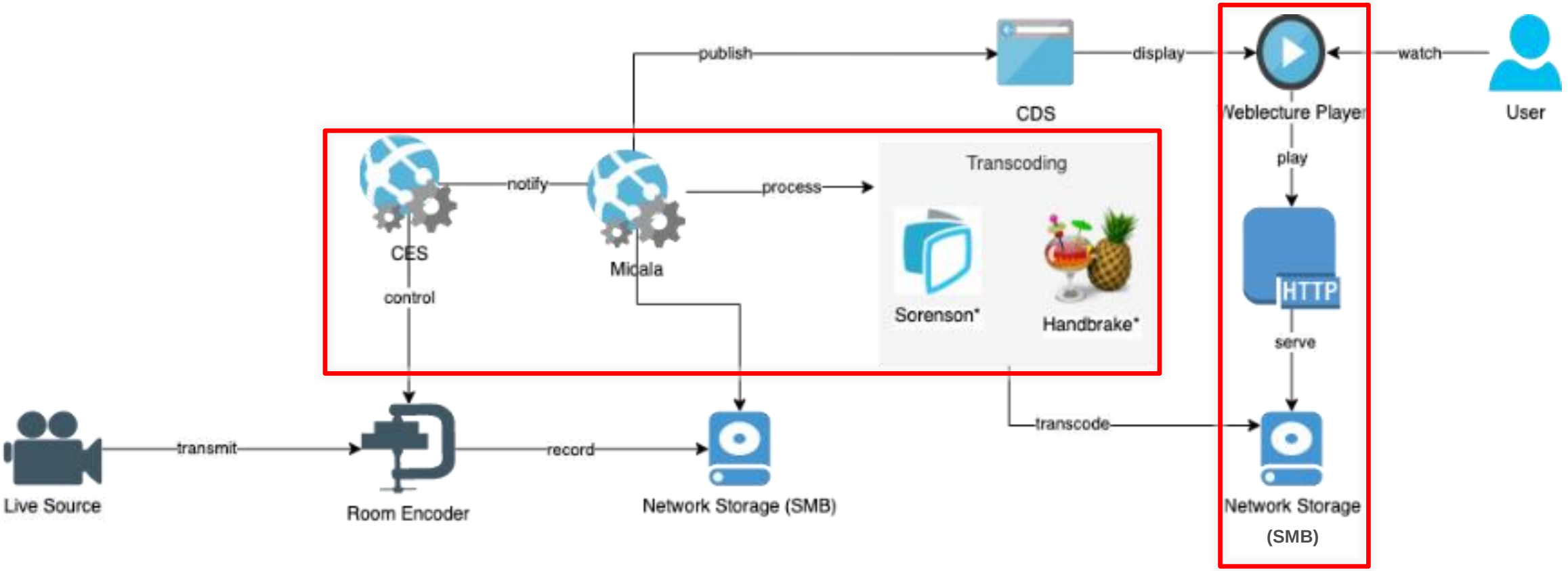
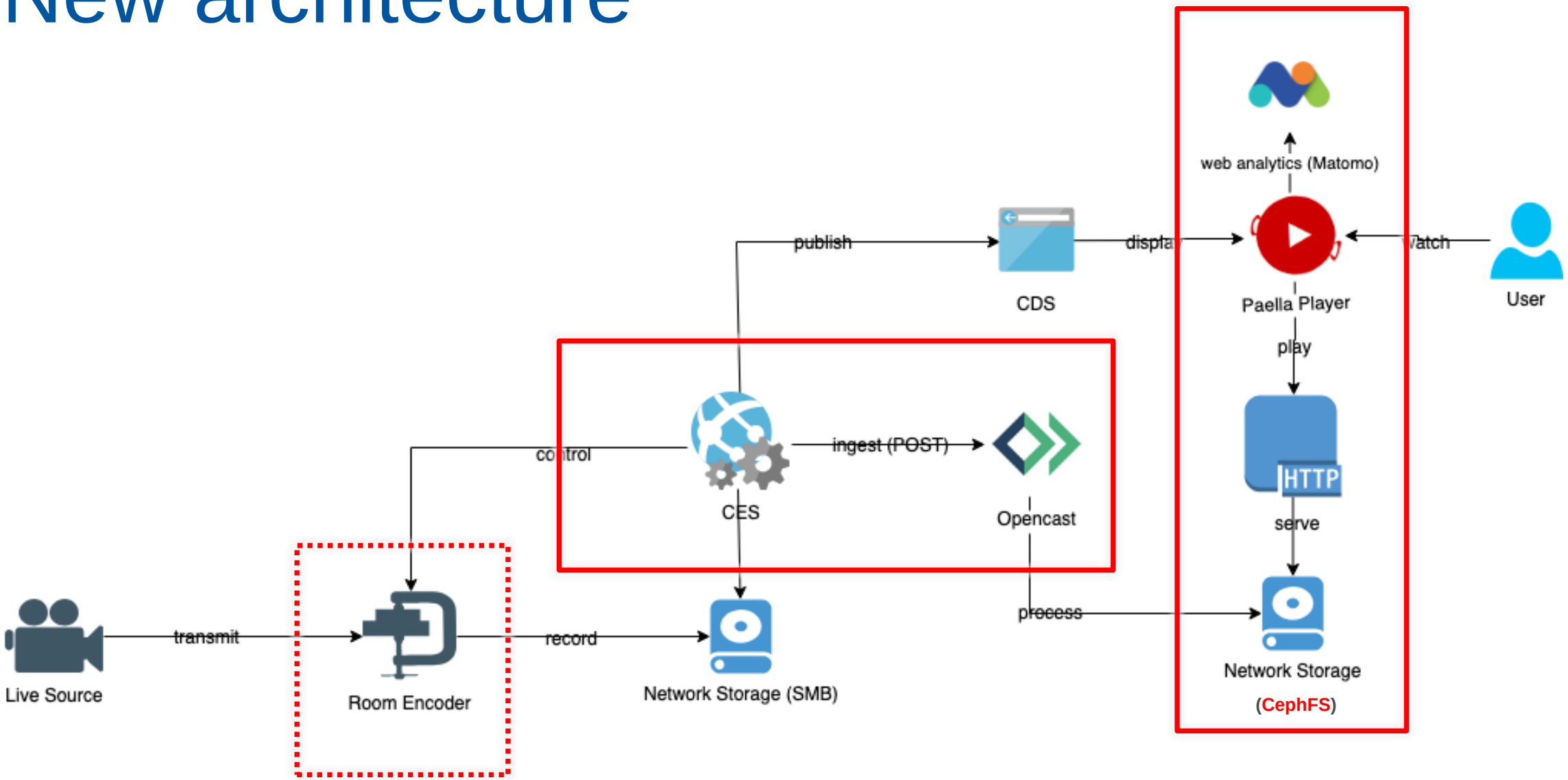
Architecture (old) (1/2)



Architecture (old) (2/2)



New architecture



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Conclusions

- **Huge effort** from the Whole Team
  - **Key factor** is a direct link to Opencast & Paella thanks to **Miguel Angel** who joined during Pandemic under a collaboration agreement with UPV (Spain)
  - **Fruitful exchange** with Opencast members: ETH, UPV, Medical University of Graz, University of Cape Town,..
- Accomplishment of all the goals set
  - **Improvement** of **user experience:** from advance till lambda user
  - A more **flexible/rich platform** to face the **future**
- Nowadays testing the production setup, we will go **as soon as** possible on **production** (holidays allowing)
  - Serco (2nd level support) has participated in the process providing requirements & testing the QA infrastructure. Manual was delivered to ease access to the new platform
  - Decommission of actual platform: Micala, Old CES, Sorenson,… as we cant maintain both platforms.
- **On progress** work with CDS for integration/adoption of the solution
  - New video-player, Paella, Transcoding, etc..
- Many **thanks** to many **IT colleagues**: Malt-Authentication, DBoD/Rundeck, Storage (CEPHFS), Elasticsearch for their support/help

Pertinent Links

- Opencast documentation: https://docs.opencast.org/
  - Opencast 2021 summit: https://ocs21.tugraz.at/programme/
- Paella player documentation: https://paellaplayer.upv.es/
- CERN gitlab:
  - New CES: https://gitlab.cern.ch/webcast/webcast-central-encoder
  - Video-player: https://gitlab.cern.ch/webcast/video-player
  - Opencast hostgroup: https://gitlab.cern.ch/ai/it-puppet-hostgroup-opencast
  - Pycast: https://gitlab.cern.ch/webcast/pycast
- User manual for Serco: https://codimd.web.cern.ch/PkojfsN2SPedpN7NMrPgnQ
- Meetings and others targeting CDS integration:
  - Indico: 1034007 & 1036582
  - Bits and Chips for CDS integration: https://codimd.web.cern.ch/ma37VYe3QCKJjbaf5Nxr_w
  - MM channel: https://mattermost.web.cern.ch/it-dep/channels/opencast-cds-wg

Questions?