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eXtreme monitoring: CERN video conference system and audio-visual IoT device infrastructure

Monday 4 November 2019 11:30 (15 minutes)

In this talk the approach chosen to monitor firstly a world-wide video conference server infrastructure and secondly a wide diversity of audio-visual devices that build up the audio-visual conference room ecosystem at CERN will be presented.

CERN video conference system is a complex ecosystem which is being used by most HEP institutes, together with Swiss Universities through SWITCH. As a proprietary platform, on its on-premise version, Vidyo offers a very limited monitoring. In order to improve support to our user community together with a better understanding of the Vidyo platform for service managers and video conference supporters a set of tools to monitor the system has been developed keeping in mind simplicity, flexibility, maintainability and cost efficiency reusing as much as possible technologies offered by IT services: Elasticsearch stack, Influxdb, Openshift, Kubernetes, Openstack, etc. The result is a set of dashboards that greatly simplify access to information required by CERN IT helpdesk and service managers and that could be provided to the users. Most of the components developed are open source [1,2], and could be reused for services facing similar problems.

With the arrival of IP devices in the Audio-Visual and Conferencing (AVC) equipment, the possibilities to develop an agnostic solution for monitoring this IoT jungle (video encoders, videoconference codecs, screens, projectors, microphones, clocks,..) becomes feasible. After trying with no real success existing commercial products for monitoring, CERN is now developing an opensource solution to effectively monitor/operate the AVC ecosystem using existing opensource components and central services provided by the IT deparment: node-red/mqtt, telegraf/influxdb/grafana, beats/logstash/elasticseach/kibana, openshift, etc.

[1] https://github.com/CERNCDAIC/aggsvidyo
[2] https://github.com/CERNCDAIC/resthttpck

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