

Adapting Webconference Cloud Services to R&E communities

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Extended Abstract

Current National Research and Education Networks (NRENs) in Europe aim to provide services beyond traditional connectivity services to their users. Webconference tools are more convenient, engaging and less resourceful solution for end users, compared to traditional videoconference systems. Desktop videoconferencing services have been requested by users and became more popular. As result, webconference became a common tool on every day work within research institutions. Currently, 17 NRENs provide webconference as a service to their community [TNC2012].

Unfortunately, Webconference platforms are provided “as-is” by manufacturers and, although, often targeted to business and education, lack some features that the European Academia needs. Manufacturers focus on the user experience and features during the meeting, lacking proper multi-domain authentication methods, multi-tenant branding on the meeting provisioning interface. Furthermore, the complexity of some systems, the lack of Learning Management Systems (LMS) integration and proper internationalization support, compromise the deployment of the services on some situations, as they don’t fulfil the requirements of Research and Education (R&E) users.

¹ FCCN-FCT– <http://www.fccn.pt>

This communication describes the work done by FCCN while implementing the webconference service's second generation using a standard SaaS contract on the cloud.

In the year 2007, FCCN started the implementation of a webconference service. Back then, infrastructure was needed to implement high demanding videoconference and webconference services. The solution was tendered, purchased and installed on a datacenter. During the purchase process, it was clear that any infrastructure had to be adjusted in order to provide the service within FCCN's and user's requirements. The platform relied on a username and password authentication mechanism within the system, almost inexistent authorization mechanisms and meetings provisioning was confusing for most users. The solution was to add a new layer of software. This layer presented a new user interface for session and recording management, Authentication and Authorization Infrastructure (AAI) support and NREN branding. The vendor API was used to interface the infrastructure and this new layer. As result, most of the infrastructure remained untouched.

The service was branded as "*COLIBRI – Ambiente Colaborativo Multimédia*"² and was deployed in production in 2009. By the end of 2013, more than 600 meetings were self-provisioned by users monthly (over 6500 yearly). Currently this is perceived as a fundamental service by the user community as it is used for small meetings and events, as well on on-line courses.

Although the success of the service, it became clear that the outdated infrastructure's operational costs were no longer compatible with the current landscape of products and services available. A new solution had to be found, one that would provide better user experience and functionality to the users and, at the same time, be more affordable and reduce the operational costs.

During 2013, FCCN, defined and executed a project to deploy a new version of the COLIBRI service. After some rounds of testing with users and manufacturers, it became clear that there was not a single solution that fulfils all the requirements on the backoffice, such as: AAI support to authorise access and self-provisioning of meetings; multi-tenant support or well defined security perimeters for users; ability to brand and

² COLIBRI – Multimedia Collaborative Environment – <http://colibri.fccn.pt>

customize options. Thus, not having available the perfect solution, the focus of the choice was on reducing infrastructure operational costs and maximize user experience. The only feature required from the infrastructure back office was the existence of a full API, capable of handling all the management needs of a regular user, allowing self-provisioning of sessions. The solution chosen was the Adobe Connect Pro cloud hosted service.

On top of this service and its API, FCCN developed a web application that aimed to provide a ubiquitous, brandable, multi-language, secure and usable interface. It also became clear that it should interact with LMS and become the user's tool to share and promote their meetings.

Access to meetings and recordings are enforced using a mix of parameterization within the application and the usage of AAI technology. The system automatically provisions users on the cloud and configures the user profile based on a set of rules defined by the NREN service manager.

During development FCCN has used its expertise in Usability and User Experience to create a tool that is user centred and focused on the user goals. Avatars were created and inspired developers and user test rounds were also part of the development process.

This application was enabled with many innovative features, such as:

- Access matched with EduGAIN authentication federations: Portuguese NREN's users can securely invite and allow access to meetings counterparts by name, by domain or institution;
- Facebook meeting promoting and sharing: users can jumpstart their promotion on social networks directly from the meeting management interface;
- Access to meeting contents and recordings: the host can access all the meeting contents and recordings without enter the webmeeting interface;
- Intelligent meeting sharing widgets to integrate within any webpage or LMS: the widget is sensitive related to the time of the meeting and presents different options according to the current time.
- Multi-entity frontend, single backend: although the system doesn't allow multi-tenant, different instances can be "plugged" on the same backoffice infrastructure.

The main issue solved with this development was how to map “Federation Users” into “Cloud Users” and to prevent the users access the backoffice, while enabled to use cloud service directly using their cloud profile. This technique may be used for other cloud services, has the core authentication system on most cloud infrastructures is based on username and password authentication.

The service branded as *Webconf-COLIBRI*³ has entered production by the end of 2013. It is expected that this service will mature at a fast pace and become the “defacto” webconference service used by Portuguese R&E community in a short period of time. First usage reports will be available by TNC2014 time.

Make this web application open source, pluggable with other webconference engines are further are open questions that will rely on international collaboration.

References

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Author Biography

Rui Ribeiro: He studied computer science at Lisbon’s University (1991-1997). He complemented his studies on 2011 when he enrolled on a Masters on Science, Technology and Innovation management. He joined FCCN in 1998, being the IP multimedia service manager since 2002. He currently manages the video services infrastructure at FCCN and is an active member on eduCONF group at GÉANT project.

³ Webconference COLIBRI website – <http://webconf-colibri.fccn.pt>