



Maintaining a sustainable Future for IT in Higher Education

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The University of Trás-os-Montes and Alto Douro eLearning Shared Federated Services - A Project Report

ABSTRACT

The University of Trás-os-Montes and Alto Douro (UTAD) currently provides to their users trusted and secure access to the National Science and Technology Network (RCTS) common services through the national academic federation infrastructure (RCTSaai). Several of these services are directly related with e-learning activities. Services like web conference platforms (Colibri), educational multimedia repositories (educast@fccn) and e-learning platforms are being provided through federated access. In this context, UTAD started to provide and to integrate into its internal e-learning platform (Moodle) access to the federated RCTS services.

The Portuguese academic federation infrastructure RCTSaai uses shibboleth as the main standard for providing access to their shared resources. Shibboleth is an Internet2 Middleware Initiative project that has created an architecture and open-source implementation for federated identity-based authentication and authorization infrastructure based on SAML (Security Assertion Markup Language). The federated identity allows for information about users in one security domain to be provided to other organizations in a common federation. This allows for cross-domain single sign-on and removes the need for content providers to maintain usernames and passwords. Identity providers (IdP's) supply user information, while service providers (SP's) consume this information and gate access to secure content.

The RCTSaai infrastructure provides several federated services to the Portuguese federated Universities. Several of these services can be used for the day-to-day common e-learning and research activities inside the University.

Colibri is a web conference server that can be accessed from the RCTSaai federation services. This platform provides to students, teachers and researchers a way to have a videoconferencing platform with shared desktop and dashboard functionalities within Moodle LMS. Students can do group work and videoconferencing with colleagues and their teacher inside Moodle.

Arara.pt is a federated unified communications system. It is SIP (Session Initiation Protocol) and XMPP (Extensible Messaging and Presence Protocol) based and provides real time communication over IP (Internet Protocol). This federated platform allows having instant messaging, video calls and audio calls within the SIP enabled national academic VoIP network (VoIP@RCTS). Students can call and have video calls to their teachers and colleagues using this platform.

EDUcast is a federated video on-demand management system that provides a simple registration and distribution of video contents directed to higher education courses. These contents are distributed to students that have a federated identity through Internet.

Microsoft Dreamspark program provides to teachers and students that have their federated University identities a set of professional tools Microsoft for design and development cost free. These tools can be used for their academic activities.

Other federated services provided by the RCTSaai to UTAD for e-content management as the scientific repositories and Web libraries services are also being provided to UTAD. The cases of the thematic repository of the OPorto University, the Portuguese Open Higher Education Library (BAES), the access to IOP Publishing, Metapress Library, the ISI Web of Knowledge (SM) as research platforms, helps quickly to find, analyze, and share information in the sciences, social sciences, arts, and humanities to students and researchers.

This paper reports on the results and future evolutions by the use of the RCTSaai common services in UTAD by their e-learning and research activities. Also, the paper intends to present on the achieved gains by the use of the common services in terms of IT management reduction, local infrastructure maintenance and in the capabilities of e-learning resource sharing between the Portuguese Universities using federated services.

REFERENCES

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