

Dissertação de Mestrado em Engenharia Informática (2018/2019)

Title : Token/Virtual token Authentication for an EPOS identity provider proxy.

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Description

Some partners of the European Plate Observatory System (EPOS <https://www.epos-ip.org>) project are currently using the EGI (<https://www.egi.eu/>) Check-in identity provider proxy as a means of authenticating European Research Scientists. EGI Check-in (<https://www.egi.eu/wp-content/uploads/2017/09/Check-in.pdf>) provides an interoperable AAI solution that can be used as a service for third parties. In particular Check-in permits single sign-on to services through eduGAIN and other identity providers, such as Google, Facebook, LinkedIn or ORCID

However it is desirable to extend such identity provider proxies to be able to use physical tokens and virtual tokens. Example of physical are the Yubikey Cryptographic Tokens that support the U2F authentication standard and Smart Cards such as Electronic Identity Cards that make use of National Public Key Infrastructures. An example of virtual tokens that make use of two factor authentication mechanisms and plugins is the Portuguese Chave Móvel Digital (see <https://www.autenticacao.gov.pt/>).

The objectives of this thesis are to study identity providers in the context of the EPOS project and the study and design of an identity solution that enables authentication to EPOS WP10 web portals via Token and Virtual token Authentication. The project begins with a the survey of the state of the art of authentication in Web Portals before the design and implementation of an authentication solution using in particular the Portuguese Chave Móvel in order to access the Portuguese EPOS and Geosciences Portals.

Work Plan

- 1 Literature and State of the Art Review
- 2 Study of the characteristics, algorithms and architectures to be used.
- 3 Implementation, Testing and Evaluation of the proposed solution
- 4 Publication of the results
- 5 Writing of the Dissertation.