ESUP-OTP

An open-source Multi-Factor Authentication (MFA) provider for Apereo CAS

Aymar Anli — Université Paris 1 Panthéon-Sorbonne
Vincent Bonamy — Université de Rouen Normandie
Mathilde Guérin — La Rochelle Université
Presentation outline

1. Introduction
   • MFA providers with Apereo CAS
   • What’s the issue then?

2. ESUP-OTP
   • Goal and purpose
   • Technical design

3. How ESUP-OTP works in “real life”
Hang on! A few words about ESUP first!

= French Consortium

• **80+ member** institutions

• Our mission? To **develop/support/promote** open source solutions for Higher Ed

• **Strong partnership with Apereo**, collaborating on projects like uPortal, CAS, OAE, Karuta, …

Alright… Now that it's done, let's move on to the more interesting stuff!
MFA providers with Apereo CAS

• **Starting with v5, CAS supports several MFA providers such as...**
  - ✓ Duo Security
  - ✓ Twilio Authy
  - ✓ Acceptto
  - ✓ YubiKey
  - ✓ WiKID
  - ✓ FIDO
  - ✓ Swivel Secure
  - ✓ Google Authenticator

• **However, most of them are...**
  - ▷ not open-source 😞
  - ▷ expensive 😞
  - ▷ and/or not self-hosted 😞
ESUP-OTP
TO THE RESCUE!
ESUP-OTP > Goal and purpose

- ESUP-OTP aims to:
  - be open-source & free (MIT License)
  - be self-hosted
  - be easy to use
  - let users choose their MFA option(s)
  - let managers help out/assist users when necessary
ESUP-OTP > The different MFA options

- SMS/Mail
- NFC swipe
- Mobile push
- TOTP w/ Google Auth
- Random code list
ESUP-OTP > Technical design

ESUP OTP MANAGER
CASified web application
- User preferences
- User help/assistance
- Administration UI

ESUP OTP API
REST API
- Code generation methods
- Code transports

ESUP OTP CAS
CAS module

ESUP-Auth
Mobile application
- Now AVAILABLE on Google Play
- and coming soon on AppStore (under review)
ESUP-OTP > From a user’s POV…

Waiting for push (or NFC) notification...

… or input code from Google-Auth, SMS, mail

ESUP-OTP with CAS v6.3.3
ESUP-OTP push enrollment with QR-Code

Device enrollment for notifications
ESUP-OTP > From a user’s POV...

ESUP-OTP backup codes

Random code list
ESUP-OTP > From a user’s POV…

“Someone please call 911”
ESUP-OTP > From a user’s POV…

ESUP-OTP Admin Interface

On the admin side
And... voilà!

• Authors and contributors:
  ★ Alex Bouskine  ★ Aymar Anli  ★ Vincent Bonamy
  ★ Mouhamed Bassirou Deme  ★ Francis Le Coq  ★ ... and others!

• ESUP-OTP is on Github! Go take a look at:
  https://github.com/search?q=org%3AEsupPortail+esup-otp

• Got any questions? Drop us a line at contact-tech@esup-portail.org