



Using cloud computing to foster closer links between higher education institutions

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Using cloud computing to foster closer links between higher education institutions

HEIs+CLOSER
Higher Education Institutions
more
closer

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Agenda

- The project IES+Perto
 - Main goal and objectives
- Cloud infrastructure
- Interoperability platform
- Services
 - Student mobility
 - Apps for mobile devices
 - Digital signature
- Conclusions and future developments

The project IES+Perto



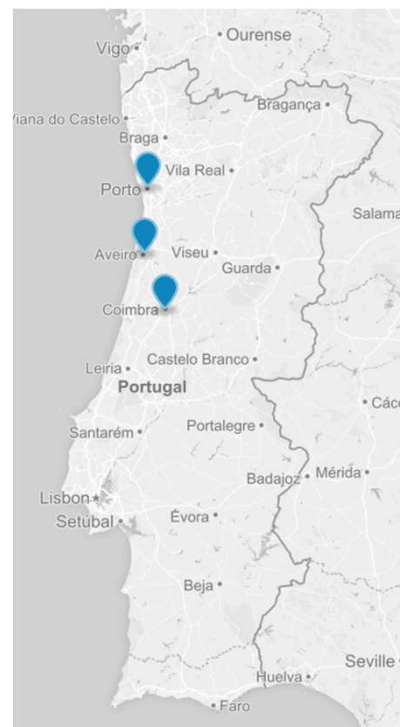
- Work began in January 2014
- Project ends September 2015

- Budget: 2M€
- 1.7 M€ financed

- SAMA - Administrative Modernization Support System

The context

- Portugal
- Sovereignty 1128
- Population: 10.4 million (2014 estimate)
- Total area 92 200 km² (35,6 sq. mi)
- Capital City: Lisboa (Lisbon)
- HEI
 - Universities (14 public + private)
 - Polytechnics (17 public + others)
- CRUP
- CCISP
- FCT/FCCN



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The University of Aveiro



- ▶ 16 departments + 4 polytechnic schools
- ▶ ~ 18 R&D institutes
- ▶ ~ 210 study programs
- ▶ ~ 14.700 students
- ▶ ~ 1.050 teachers and researchers
- ▶ ~ 650 technical and administrative staff
- ▶ Geographic dispersion: 3 campuses



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The University of Coimbra



- ▶ 12 organic units
- ▶ ~ 406 study programs
- ▶ ~ 23.000 students
- ▶ ~ 1.535 teachers and researchers
- ▶ ~ 860 technical and administrative staff
- ▶ Geographic dispersion: 3 campuses



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Polytechnic Institute of Porto



- ▶ 7 schools + "Porto Design Factory" + "Douro Valley Hotel & Spa - Porto School Hotel"
- ▶ ~ 25 R&D institutes
- ▶ ~ 120 study programs
- ▶ ~ 18.000 students
- ▶ ~ 1400 teachers and researchers
- ▶ ~ 450 technical and administrative staff
- ▶ Geographic dispersion: 5 campuses

The University of Porto

U.PORTO

- ▶ 14 faculties + 1 business school
- ▶ 51 R&D units
- ▶ 678 study programs
- ▶ ~ 31.400 students
- ▶ ~ 2.400 teachers and researchers
- ▶ ~ 1.600 technical and administrative staff
- ▶ Geographic dispersion: 3 campuses



U.PORTO

U C
UNIVERSIDADE DE COIMBRA

universidade
de aveiro

INSTITUTO
POLITECNICO DO PORTO

COMPETE
NACIONAL OPERACIONAL FACTORES DE COMPETITIVIDADE

QUADRO
DE REFERENCIA
ESTRATEGICO
NACIONAL
PORTUGAL 2020-2023

UNIÃO EUROPEIA
Fundo Europeu
de Desenvolvimento Regional

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- > 87 000 students
- > 6 000 teachers and researchers
- > 3 500 other staff
- Consortium represents more than 25% of higher education students in Portugal



Main goal



Exploring the benefits of interoperability, open standards and cloud computing, to help bring around a development strategy for administrative modernization and rationalization of costs in the higher education context.

Objectives

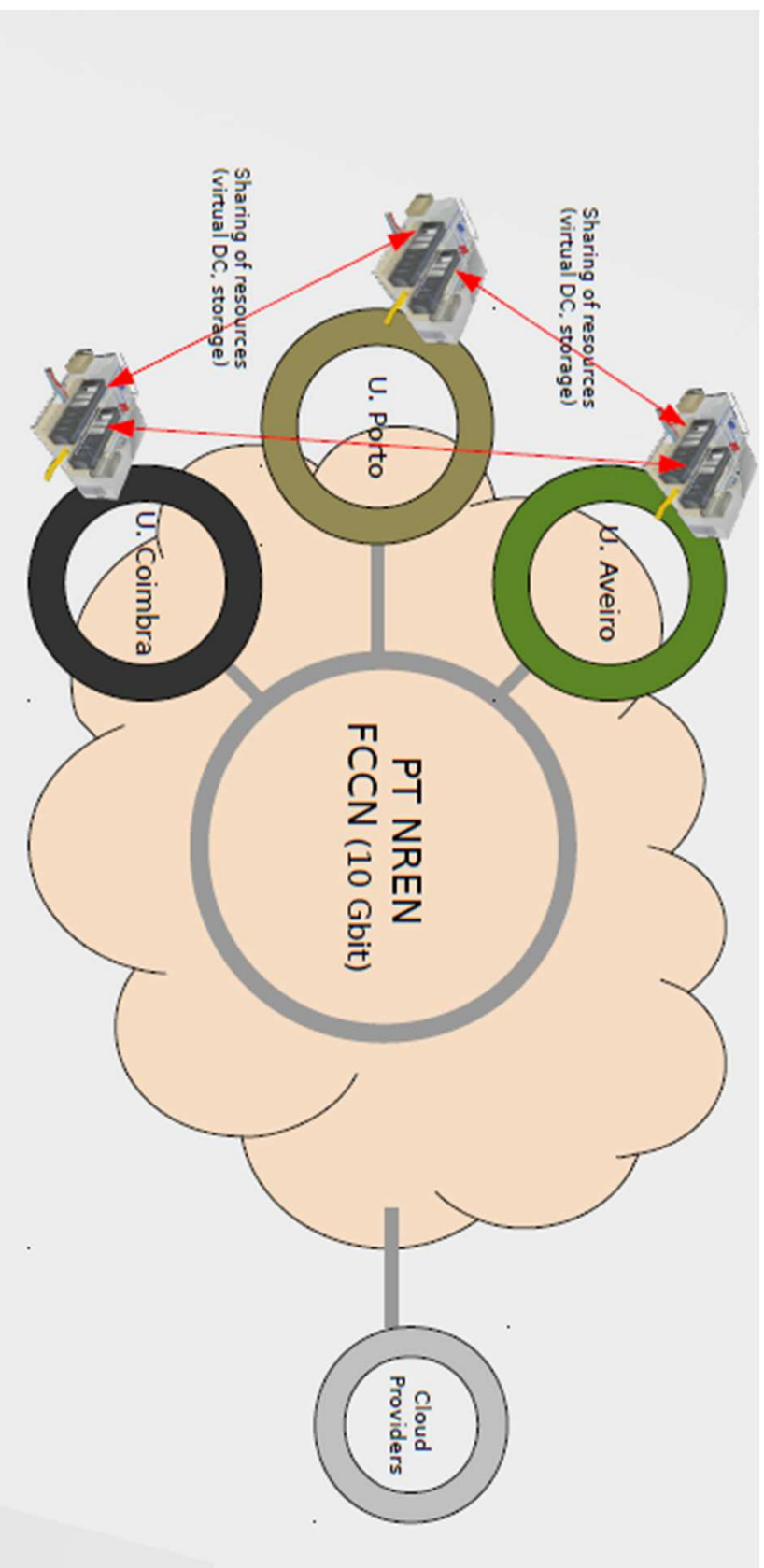
- Fostering the adoption of cloud based services
- Building an interoperability platform
- Supporting student mobility
 - National mobility programs
 - Joint courses
- Supporting APPs for mobile devices
- Digital signatures

Cloud infrastructure

- Data centres upgrades
 - Equipment; network; security audits;
- Virtualization infrastructures
- Cloud management platforms
 - OpenStack choice
- Integration with RCTS AAI
 - Shibboleth
- Virtual data centres model

IES+Perto cloud

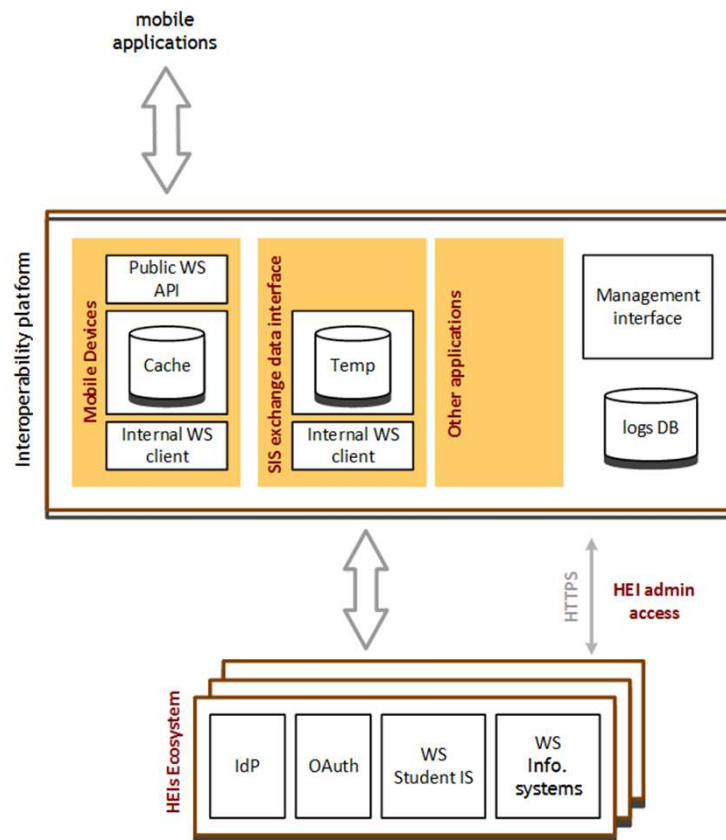
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From José António Sousa (UP), Fernando Correia (UP), Mário Bernardes (UC), Ricardo Martins (UA), IBERGRID 2014, Aveiro, Portugal, 8-10 September 2014

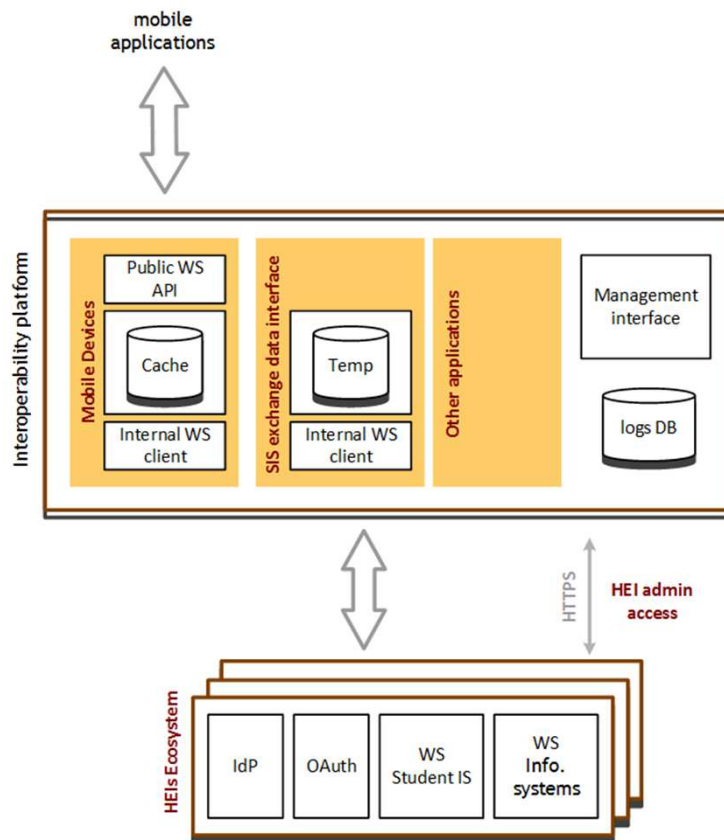


Interoperability platform



- Public API to mobile devices
- Supporting student mobility
 - National mobility programs
 - Joint courses
- 1 public API to 4 different SIS

Student mobility



- National Mobility programs
 - Almeida Garrett
 - Vasco da Gama
- Connection with EUNIS Interoperability TF
 - USOS Mobility Tool Project
 - ELMO XML

Mobile App

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- Mobile App
 - Same application for all institutions
 - Android and iOS
 - Social network concepts
 - Giving services focused in our users
 - Student
 - Professor
 - Staff

Mobile App



- Principal services
 - Social network – channels and instant messaging
 - Personal data – basic network profile information
 - Calendar – information oriented to the user
 - Financial – information of payments and references how to pay

Mobile App

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- Principal services
 - Academic Info – academic information (courses, study materials, exams, grades...)
 - Human Resources – Payrolls information, attendance control, holidays
 - Other services – free slots in parks, canteens, residences, service queue tickets

Digital signature

- Principal objective
 - Improve the use of national eID card to digital signature of documents in HEIs
- Principal constrain
 - eID card middleware have poor support of different operating systems
 - Difficult to use and install
- Solution
 - A pure JAVA middleware
 - OS independent

Digital signature

- Solution

- A pure JAVA middleware
- OS independent
- Installation not needed

- It's a light library that can be integrated with existing JAVA applets to sign pdfs

Conclusions and future developments

- Prototype for testing
- Preparation of a new project
 - Inter-university course transfer
 - Students' CV
 - Europass <http://interop.europass.cedefop.europa.eu/>
 - Students' diplomas online
 - Groningen Declaration
 - Library management
 - APC



Thank you,

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