



FUTEBOL

Federated Union of Telecommunications Research
Facilities for an EU-Brazil Open Laboratory
<http://www.ict-futebol.org.br/>

FUTEBOL Project

ICT Week Brasilia – 20-23 September 2016

Juliano Wickboldt

Federal University of Rio Grande do Sul (UFRGS)

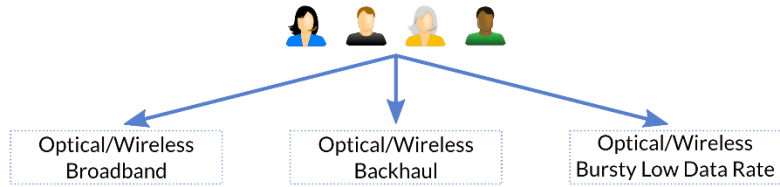


A photograph of a goalpost on a dirt field at sunset. The sun is low on the horizon, creating a warm, golden glow. The goalpost is in the center of the frame, and the field is visible in the foreground and background. The sky is a mix of orange and yellow, with some trees and bushes visible in the distance.

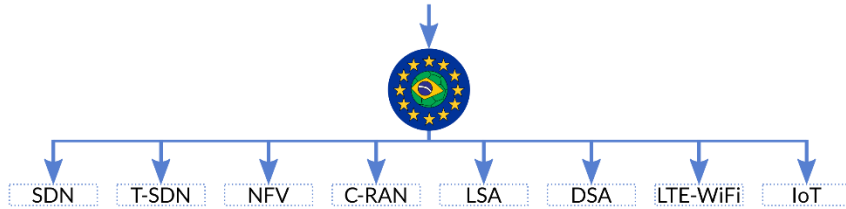
GOAL

“To develop and deploy research infrastructure, and an associated control framework for experimentation, in Europe and Brazil, that enables experimental research at the convergence point between optical and wireless networks.”

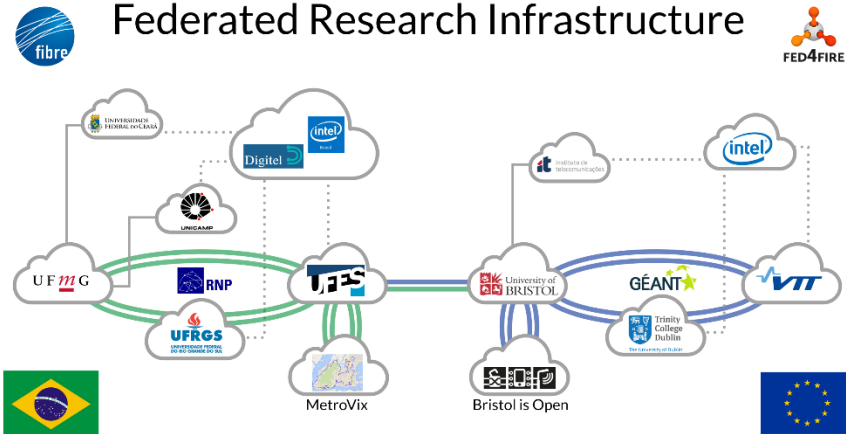
Advancement of Telecommunications



Control Framework

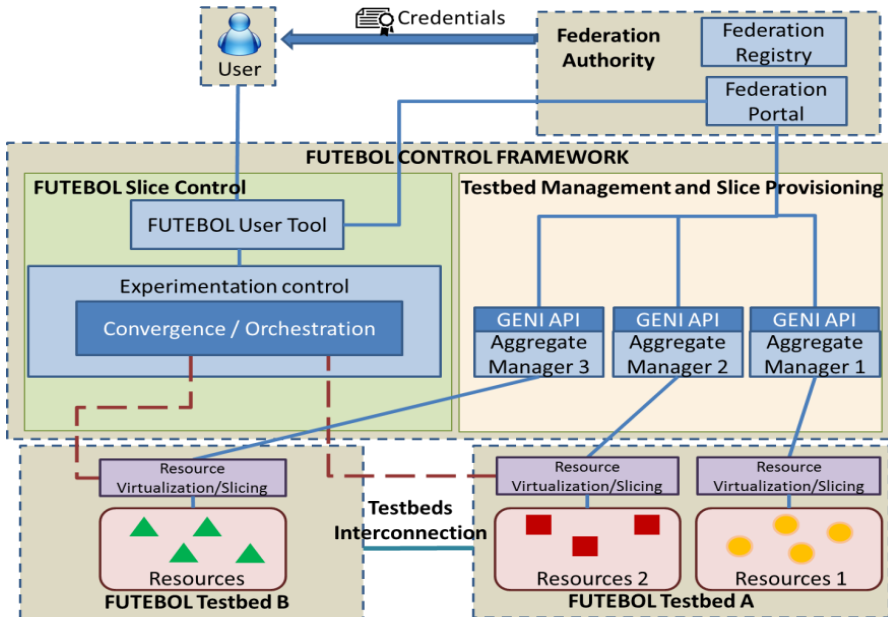


Federated Research Infrastructure



“ End-user driven advancement of telecommunications relies on the development of the FUTEBOL converged control framework, which, in turn, requires the composition of federated research infrastructure. ”

Control Framework and Federation



- Federation principles according to **Slice-based Federation Architecture (SFA)**
- Adoption of existing control tools (e.g., OCF, OMF)
- Design of **optical-wireless** convergence/orchestration tools
- Integration with a number of other types of testbeds through **Fed4Fire** and **FIBRE**

Showcases and Experiments



- **Broadband Wireless**
 - The impact of broadband wireless on optical infrastructure
- **Experiments**
 - Quality of Experience/Service (QoE/QoS)
 - Licensed Shared Access (LSA)
 - TV White Space

- **Optical backhaul for next generation wireless**
 - The design of optical backhaul for next-generation wireless
- **Experiments**
 - Heterogeneous network management with SDN/SDR and virtualization (NFV)
 - Real-time remote control of robots over an SDN infrastructure

- **Bursty, low data rate wireless**
 - The interplay between bursty, low data rate wireless and optical network architectures
- **Experiment**
 - Adaptive converged infrastructure for IoT

First 6 months of FUTEBOL



- Participation in workshops and conferences
 - FIBRE Workshop, EuCNC, EUBR Cloud Forum meetings, Cloud Scape Brazil
 - Booth at SBRC and talk at WPEIF
- Support for establishment of **3 new FIBRE islands** in Brazilian universities
 - UFRGS, UFES, and UFMG
- Two face-to-face meetings with the consortium
 - Aveiro, Portugal (March 2016)
 - Porto Alegre, Brazil (August 2016)
- Deliverables and publications
 - 2 deliverables hand in to RNP and EC
 - 2 position papers
 - 2 SIGCOMM workshop papers
 - Others await reviews...



By the end of the project we expect...



- 3 federated optical/wireless facilities in Europe + 3 in Brazil enabled for external experimenters
- 6 non-consortium partners using the FUTEBOL research infrastructure and converged optical/wireless experimentation control framework
- 3 showcase experiments including at least 1 European and 1 Brazilian partner
- Attending ETSI technical committee meetings, meeting with ANATEL, organizing workshops with telecom operators, and so forth...

Thank You!

Questions? Comments?

<http://www.ict-futebol.org.br/>



Juliano Wickboldt

jwickboldt@inf.ufrgs.br

<http://www.inf.ufrgs.br/~jwickboldt/>



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