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NRENs in the Dissemination of Innovative Low Cost Global Solutions: From Universities to the World
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- Why R&E institutions and NRENs need to think in global solutions?
- Are NRENs looking for innovative low cost global solutions?
- How NRENs could help on the dissemination of it?
- How RNP starts doing it?
  - Working Groups (WG) Programme
  - Some results that could be adopted by R&E institutions
Why R&E institutions need to think in **global solutions**?

- the Internet is inter-domain in its nature
- the Web is World Wide
- everything is becoming "as a service" (XaaS)
- the education is becoming shared (MOOCs)

It’s time to integrate our efforts!

R&E institutions and NRENs could provide global service and use global solutions to enlarge the scalability and guarantee the sustainability of its services (lowering its costs).

**Examples:**
- Open source solutions with engaged development communities, inter-domain dynamic circuits provisioning, inter-domain network performance monitoring, global webconference services, global AAI, federated testbeds etc.

**How:**
- creating forums to discuss new governance models, policies, maintenance process etc.
- converging usage/development communities to adopt/work together in common technologies (Don’t reinvent the wheel!)
Where?

- In partnership with the research and development (R&D) communities
  - from national and international Universities and R&D Institutes
  - from other partner NRENs

Why?

- to complement its network service
- to maintain an updated and growing portfolio of service offerings
- to maintain and strengthen the relationship with the research and development community
- to increase the scalability
- to interoperate
How NRENs could help on the dissemination of innovative low cost global solutions?

• Investing or attracting investments in collaborative development with academia
  – Funding R&D projects
  – Supporting or participating in R&D projects (national and international)

• Adopting and disseminating to its client institutions (R&E institutions)

• Closing the gap between academia and industry

• Closing the gap between academia and government

• Helping on the creation and maintenance of user/development communities

• Offering support on intellectual property protections on strategic solutions (software registry, patents and transfer of tecnology)
How RNP starts doing it?

• Documented and **designed a R&D Process** to create advanced products/services (running since 2002)
  – **University research groups** propose projects, and some of these proposals are then developed with financial support and close tracking by RNP (e.g. Working Groups Programme)
  – Also adopt the model to the development of network services, where **requirements are determined by RNP** (e.g. MEICAN, MonIPE, Cipó etc)
  – RNP participates on international collaborative projects (e.g. FIBRE, EELA etc)
  – RedClara adopt a similar process to develop services in Latin America
• **Working on intellectual property protections**: software registry, patents and transfer of technology (e.g. Mconf, Brazilian hardware security module etc)
• **Close relation with government** to sponsor and disseminate the products
• **Partnerships** with national commercial vendors for R&D
• **Contributions on open source and development communities** (e.g. perfSONAR, BigBlueButton, SciFi etc)
RNP Working Groups Programme Process

- WG-RNP Call for Proposals
  - Opportunities

- Prototypes (Phase 1)
  - Ideas

- Pilots (Phase 2)
  - Technologies

- Pre-production (Experimental Phase)
  - Incubation

- Production
  - Product or service
RNP Working Groups Programme in numbers

- # of years: 12
- # of projects: 88
- # of results: ~50
- # of Universities involved: 28
- # of team members: ~528
- # of experimental services launched: 13
- # of new services launched: 8
- Successful results on the last 4 years (finished phase 2): 68%
Some results that could be adopted by R&E institutions

- **SAGE-enabled tiled display wall**
  Maxine Brown, PhD.
  University of Illinois at Chicago – UIC (USA)
  - Free software
  - RNP is disseminating in Brazil
    - 6 sites deployed
    - Local support team (at University of São Paulo)
    - Fostering further developments and usage in Brazil
    - Integration with national developments (FOGO 4K Player)

- **FOGO 4K Player** (see today at 1:15PM – ROOM: Plaza Court 1)
  Guido Lemos, PhD.
  University of Paraíba – UFPB (João Pessoa, PB - Brazil)
  - Deployment in University Cinemas and teaching Hospitals

More info: rd@rnp.br
Some results that could be adopted by R&E institutions

- **SciFi: A Software-Based Controller for Efficient Wireless Networks**
  Luiz Claudio Schara Magalhães, PhD
  Federal Fluminense University – UFF (Niterói, Rio de Janeiro – Brazil)
  - Open source, low cost, establishment of a development community, Eduroam facilities

- **Mconf: A Global Experimental Web Conferencing Service for R&E**
  Valter Roesler, PhD.; Leonardo Daronco; Felipe Cecagno.
  Federal University of Rio Grande do Sul (Porto Alegre, RS – Brazil)
  - Open source, low cost, contributions to a development community (BigBlueButton), “Shibbolethized” (CAFe)
  - Opportunity to establish an experimental global service
  - Join us on a Mconf network to discuss a new governance model

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Thank you!
¡Gracias!
Obrigada!

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