

Building NGN and VoIP Services on Open Technologies

IPT workshop 2010

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Agenda

- Introduction to ngnlab.eu
- Building VoIP and NGN on OpenTechnologies
- Related activities



ngnlab.eu initiative

- Aim: build up laboratory oriented on VoIP and NGN using mainly OSS technologies
 - Enhance student experience during education
 - Cooperation with commercial institutions
- Project started 10 years ago
- Situation:
 - Initiative accepted and cooperation started with more than 20 institutions
- Organized by:
 - Slovak University of Technology and
 - Slovak Telekom

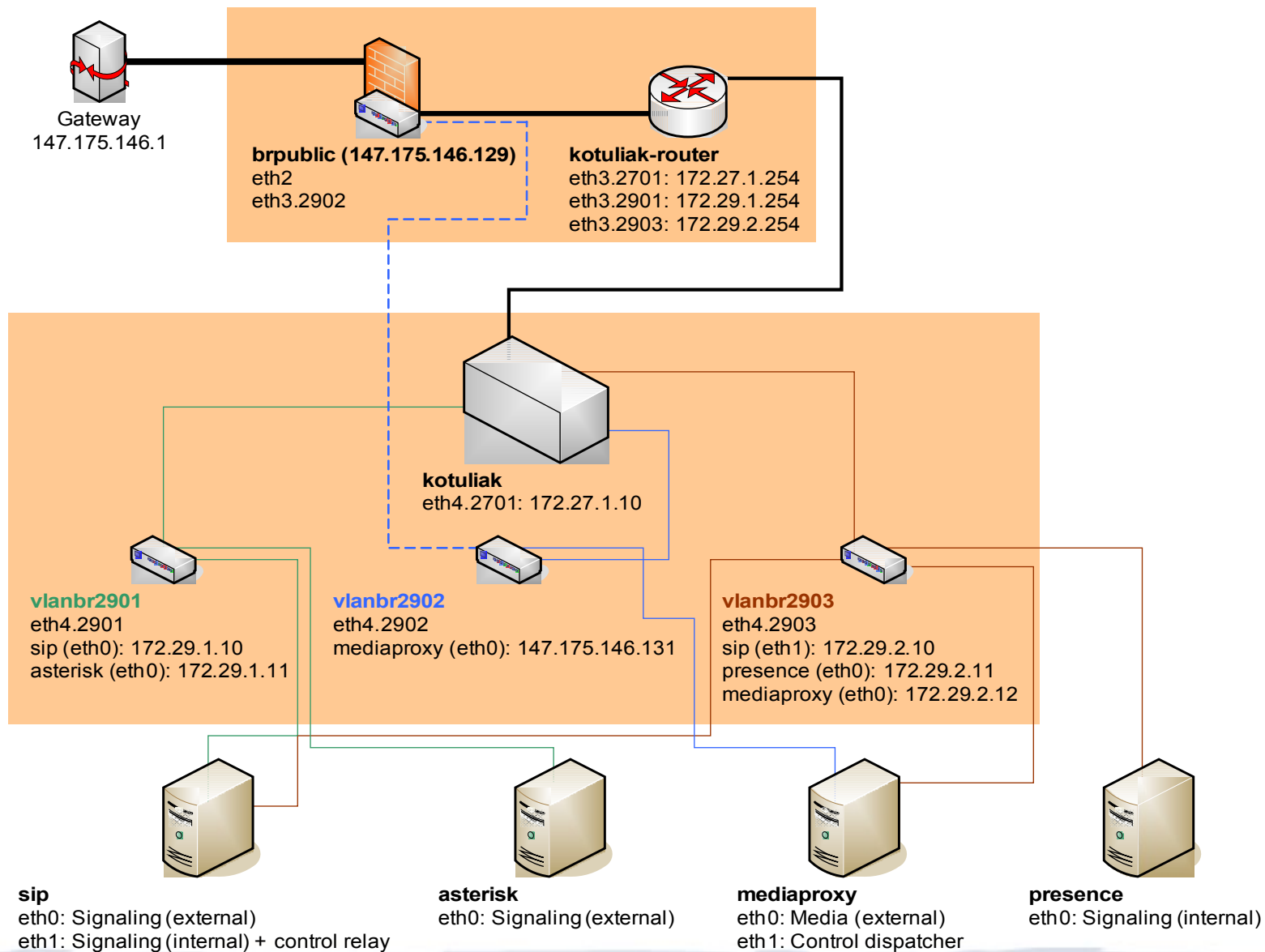


VoIP services (SIP)

- We are building production-like platform
- SIP is a base for:
 - OpenSIPS with MediaProxy
 - Asterisk for services (e.g. conferencing, voice mail)
 - Presence
- In reality, we are private provider with geo-redundant platform



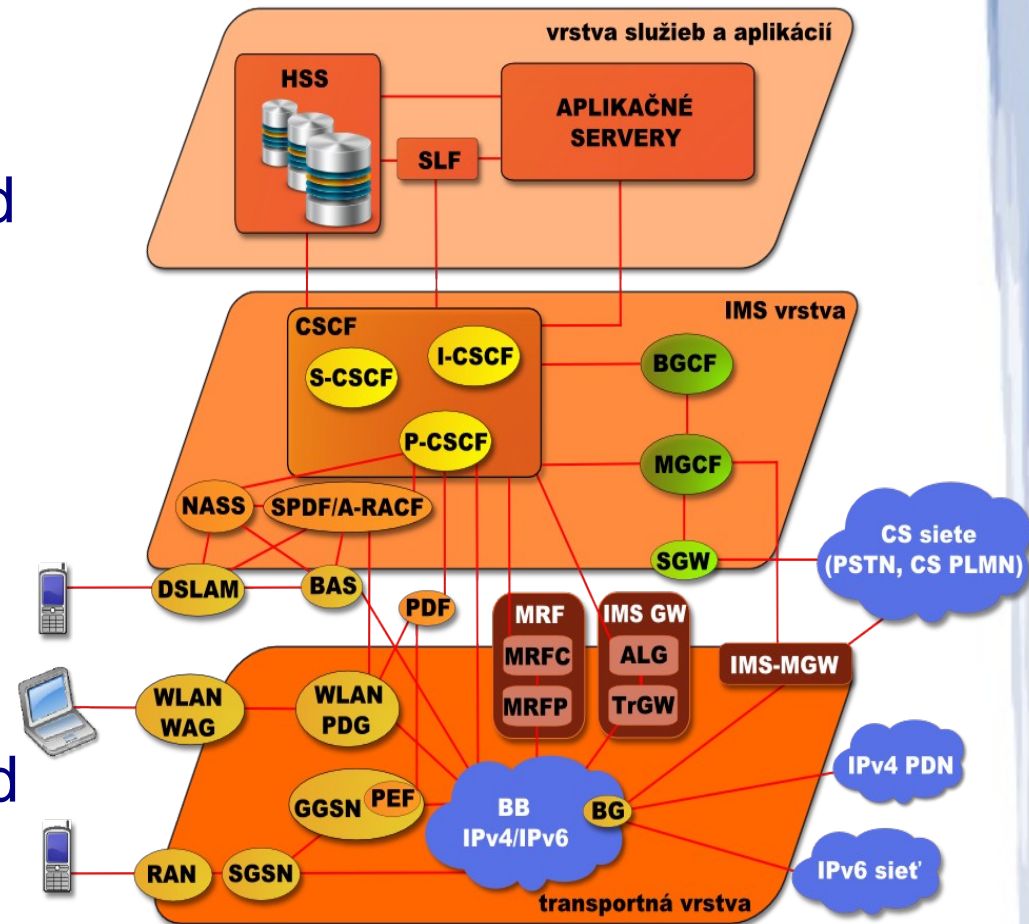
VoIP platform



We have it also !

IP Multimedia Subsystem

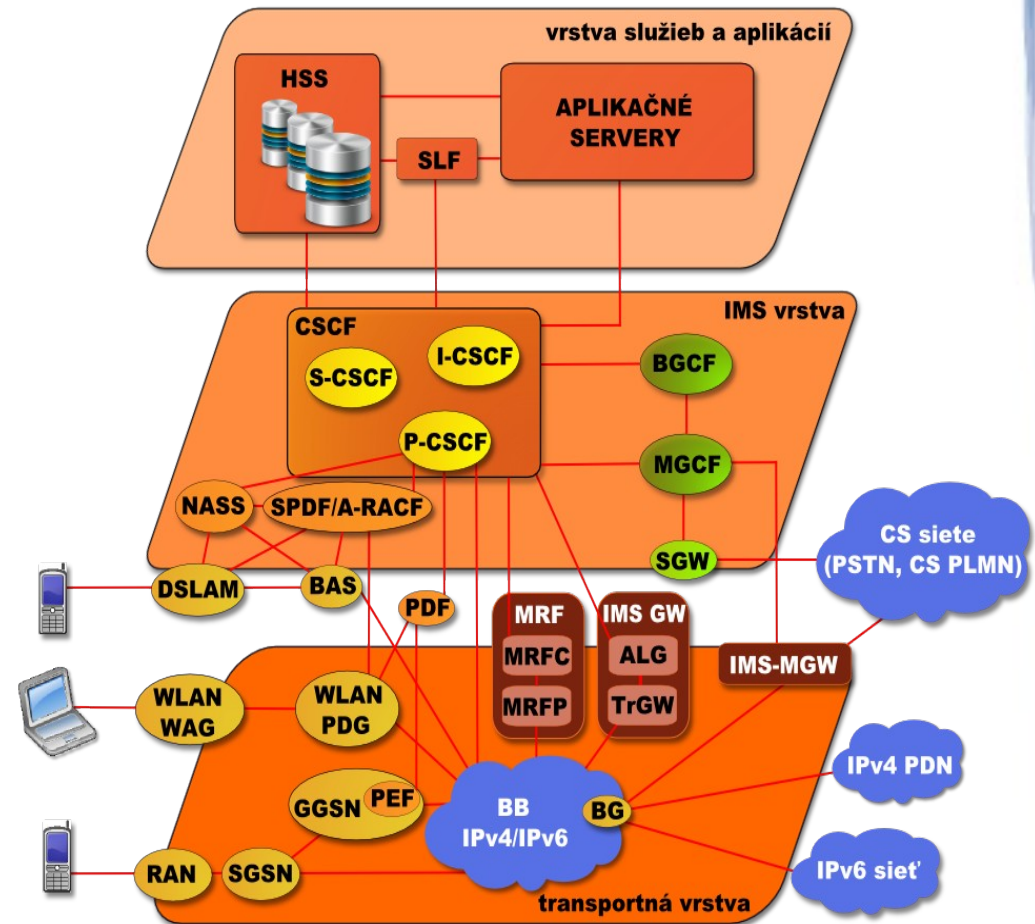
- designed by 3GPP, 3GPP2 a TISPAN
- based on open standards and protocols
- service oriented architecture
- fast service deployment
- access technology independent
- enables convergence of wired and wireless networks



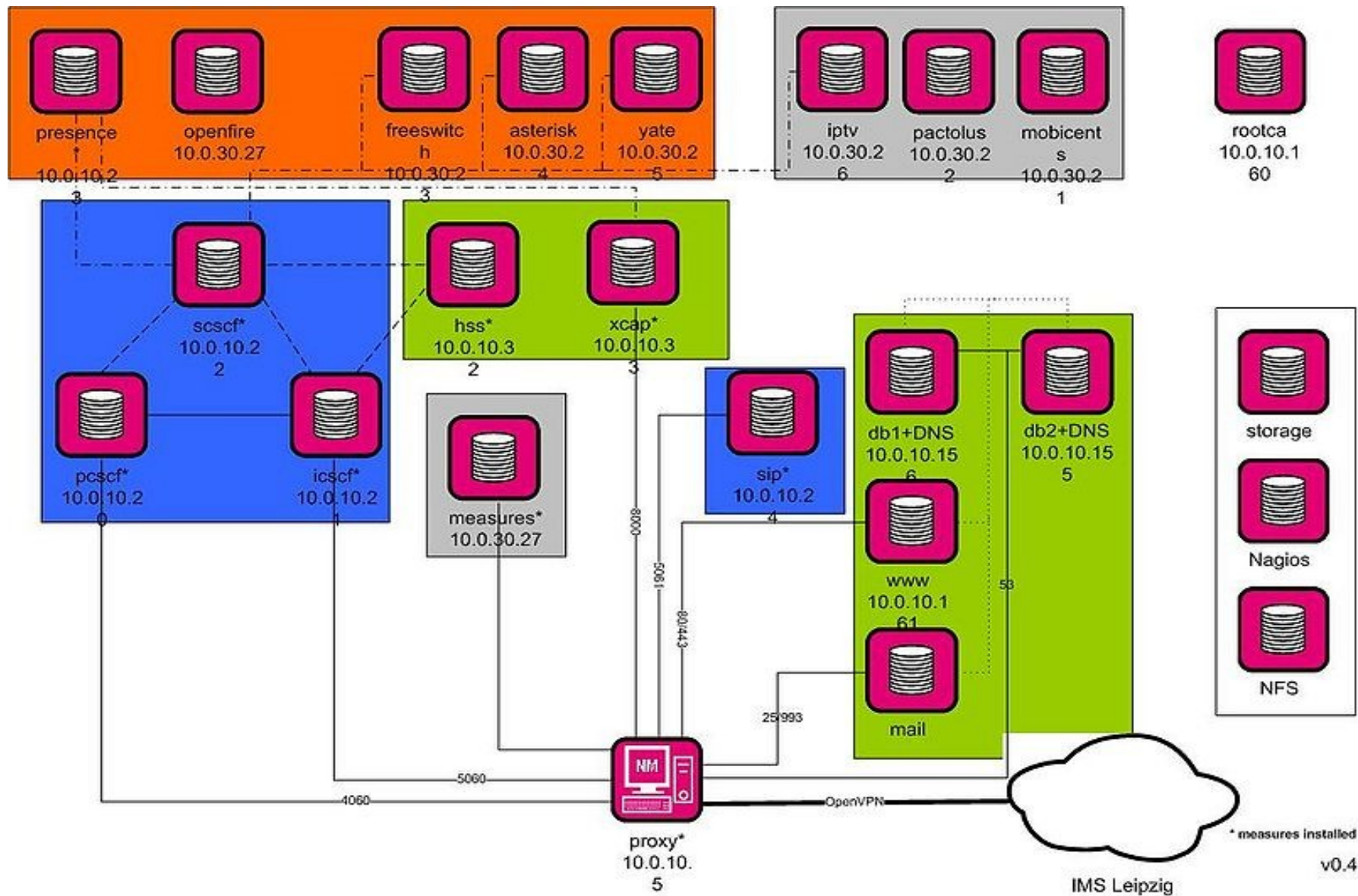
**We don't want a dinosaur of 50
elements to make voice calls!**

IMS is about services

- Framework for fast service development
- Unified interface for service building
 - Object approach
- Whole IMS can be installed within one virtual machine
- Scalable architecture – only required modules are deployed



ngnlab.eu IMS platform



ngnlab.eu IPTV

- Currently 3 TV channels
- Network based video recorder (nPVR)
- IPTV messaging
- Broadcasts



Where are Open Technologies?

Do we need expensive solutions?

How much for building a small operator?



Hardware costs

- Small rack
- Some servers
- Two switches
- UPS



Software costs

0 Euro



What to use?

- OS: Linux/Unix
- Virtualization: e.g. Xen
- OpenSER/OpenSIPS/Kamailio SIP AS family
 - SIP proxy, registrar, redirect server
 - Presence server (UAC, UAS functionality)
 - Resource list server
 - Load balancer/LCR server

What to use?

- Asterisk/FreeSWITCH/Yate PBX family
 - Announcements
 - Voice mail
 - Conferencing
- SIPPY and other B2BUA implementations
 - Pre-paid services
- MediaProxy

Who can use OSS

- Can big enterprises use OSS?
 - Can OSS be carrier grade?
- What are they using as:
 - Web server?
 - What OS for servers?
 - Do they rely on OpenSource DNS?
 - Do their employees use Firefox for browsing?



Profit to research

- Building together with community
 - No necessity to build everything from scratch
- Learning boring theories by practicing
- Building complex laboratories for students



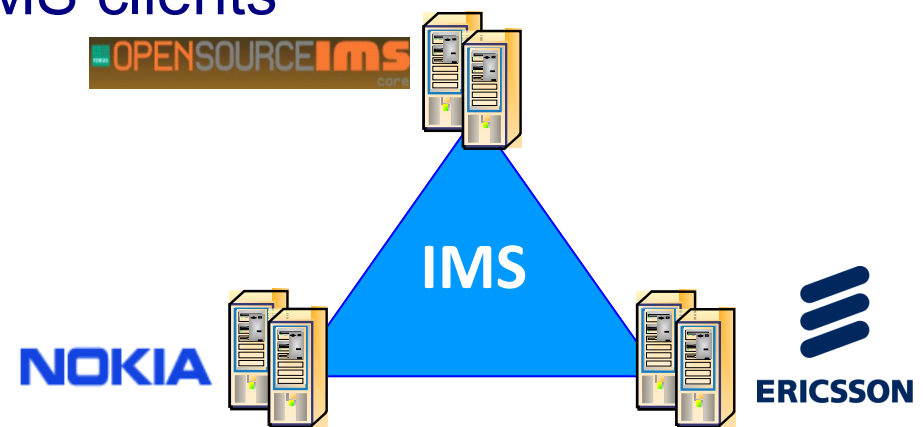
ngnlab.eu related projects and activities



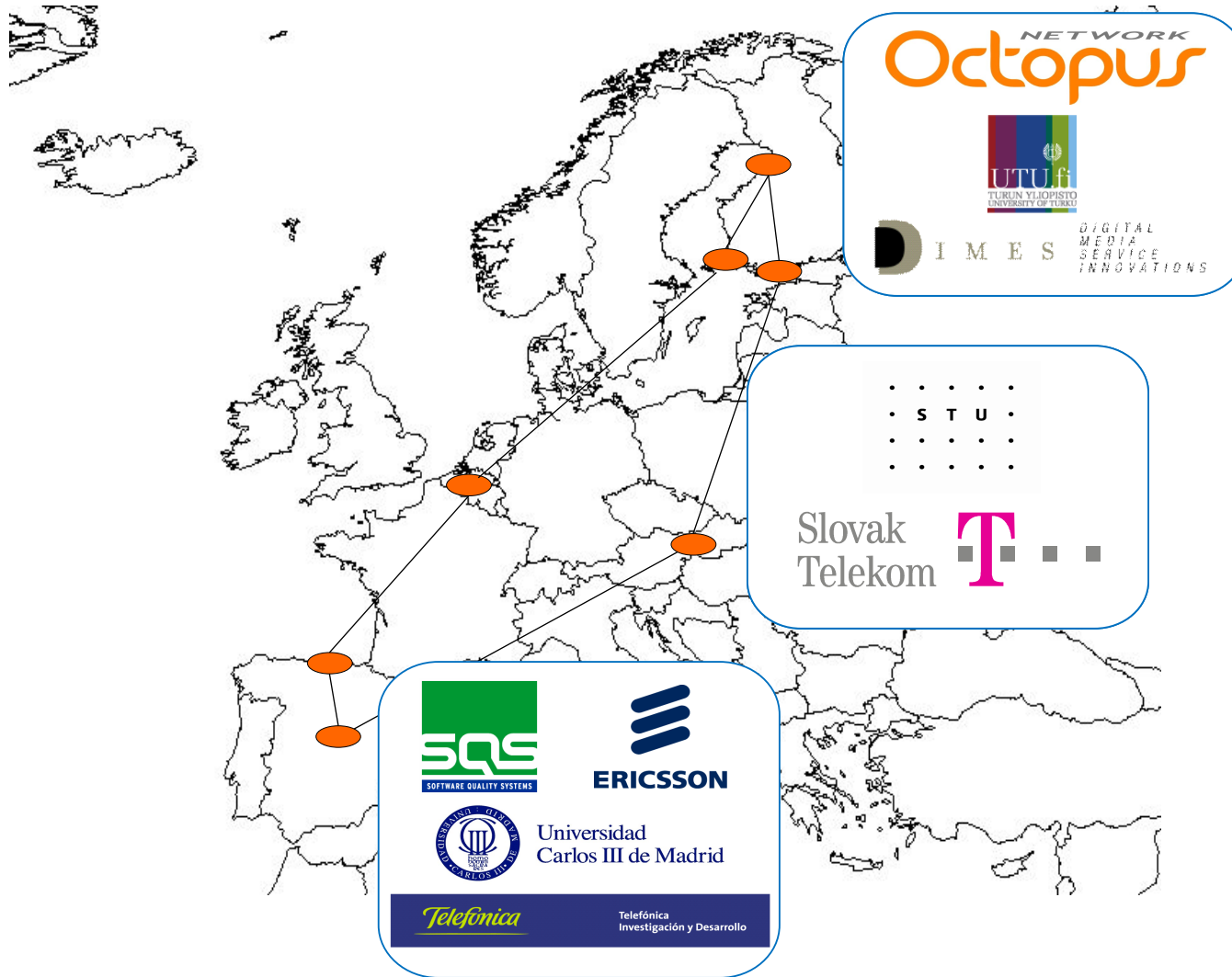
NETLAB project



- under CELTIC umbrella
- international cooperation between Slovakia, Spain and Finland
- interconnection of IMS cores through GEANT
- different cores vendors (OpenIMS, Nokia, Ericsson)
- testing services with different IMS clients
- call
- presence
- IPTV, IMS-DVB-H connection
- services in roaming scenarios



NETLAB project



Related projects

- KaTaLyzer www.katalyzer.sk
 - Analysis of traffic with web interface



Axes for future research

- 2nd ngnlab.eu workshop will be hold in November in Leipzig, Germany
- Monitoring of IMS core (Zabbix)
- Service Sharing System
- Usage of IP DECT as end-user equipment
- Future Generation Internet vs. NGN
- To find researcher – woman :-)



Questions?



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