Net Futures 2015

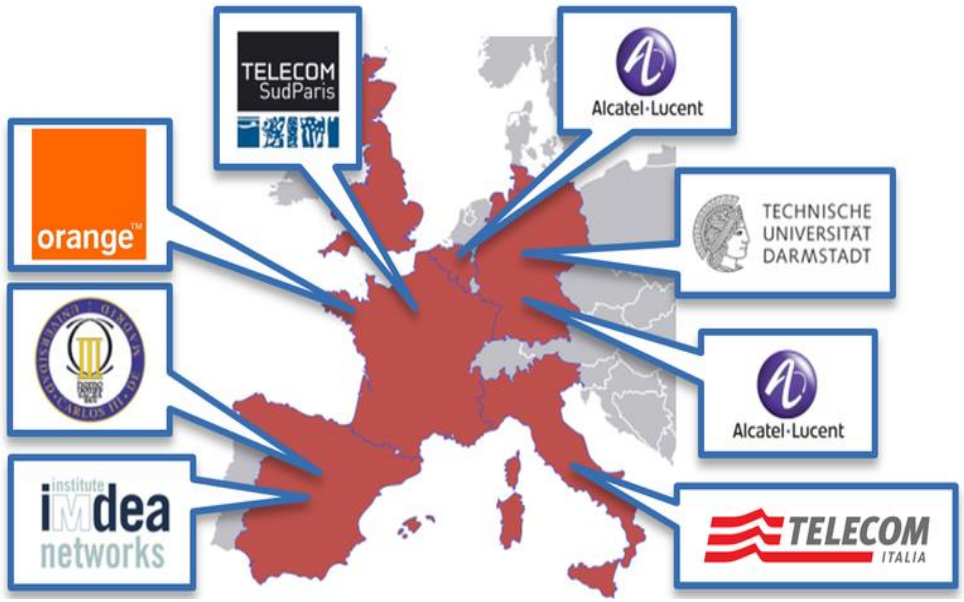
Network Technologies project

eCousin enhanced COntent distribUtion with Social INformation

November 2012 to April 2015

https://ecousin.cms.orange-labs.fr/

- the goal of eCOUSIN is to design a novel social-aware network architecture with built-in content dissemination functionalities that exploits the social-content interdependencies to improve its efficiency.



Leone From global measurements to local management

November 2012 to April 2015

http://www.leone-project.eu/

The Leone project strives to:

- Research and develop an innovative network management framework that has two novelties: it is focussed on Quality of Experience of end users; and it integrates multi-dimensional information from measurement probes in the local ISP and other ISPs.
- Research, prototype and validate through trials several network management tools that instantiate our framework: new measurement tests running on the probes; analysis of the multi-dimensional data, in order to isolate where a problem is; visualisation of the measurements and analysis results; integration into an existing network management tool; and automatic repair of the problem, where possible in some scenarios.
- Disseminate our results, standardise at the IETF, and influence regulators to define performance metrics that take account of quality of experience.

Aalto-Korkeakoulusaatio	Finland
British Telecommunications	United Kingdom
Jacobs University Bremen	Germany
Martel	Switzerland
MG-SOFT	Slovenia
Samknows	United Kingdom
Telecom Italia	Italy
Universidad Carlos III de Madrid	Spain
Università degli Studi Roma Tre (Computer Network Laboratory)	Italy
Université catholique de Louvain	Belgium

ICT 5: 7 Selected proposals

- **RIFE, UMOBILE & POINT** leverage the Information-Centric Networking (ICN) paradigm and aim at bringing this paradigm closer do deployment
- **BEBA & ENDEAVOUR** address the problem of lack of flexibility of current networks, through innovative approaches to the way Software-Defined Networks can be programmed
- **NEAT** wants to change the existing Internet architecture so that applications can easily choose amongst available transport protocol options
- **reTHINK** proposes an architecture for dynamic trusted relationships among distributed applications

RIFE

http://rife-project.eu/

RIFE addresses the major societal challenge of providing affordable Internet access to those who cannot afford it by solving the technological challenge to increase the efficiency of the underlying transport networks and the involved architectures and protocols. The RIFE solution will harness unused transmission capacity, combined with placing content caches and service functionality closer to the user and will use heterogeneous transmission opportunities that range from localized mesh and home networks over well-connected ISP backhauls to scarce satellite resources. RIFE will build upon recent advances on information-centric and delay-tolerant networking by developing optimized dissemination strategies for the involved transport networks, unified within a novel communication architecture that will provide clear abstractions to application developers.

MARTEL Consulting

avanti

ThalesAlenia Space
A Thales / Finmeccanica Company

guifi·net

Aalto University

INTERDIGITAL

UNIVERSITY OF CAMBRIDGE

UMOBILE Universal, mobile-centric and opportunistic communications architecture

http://www.umobile-project.eu/

To achieve this, we develop a **universal mobile-centric and opportunistic communications architecture** (UMOBILE), which integrates the principles of **Delay Tolerant Networking** (DTN) and **Information Centric Networking** (ICN) in a common framework.

We utilize the benefits of both ICN and DTN to enable resource exploitation at minimal bandwidth, opportunistic access to information and more localized access to information through novel caching strategies.

POINT iP Over IcN- the betTer IP

http://www.point-h2020.eu/

The main goal of the POINT project is to **develop technology, innovations, and business value chains for commercially viable IP-over-ICN networking.**

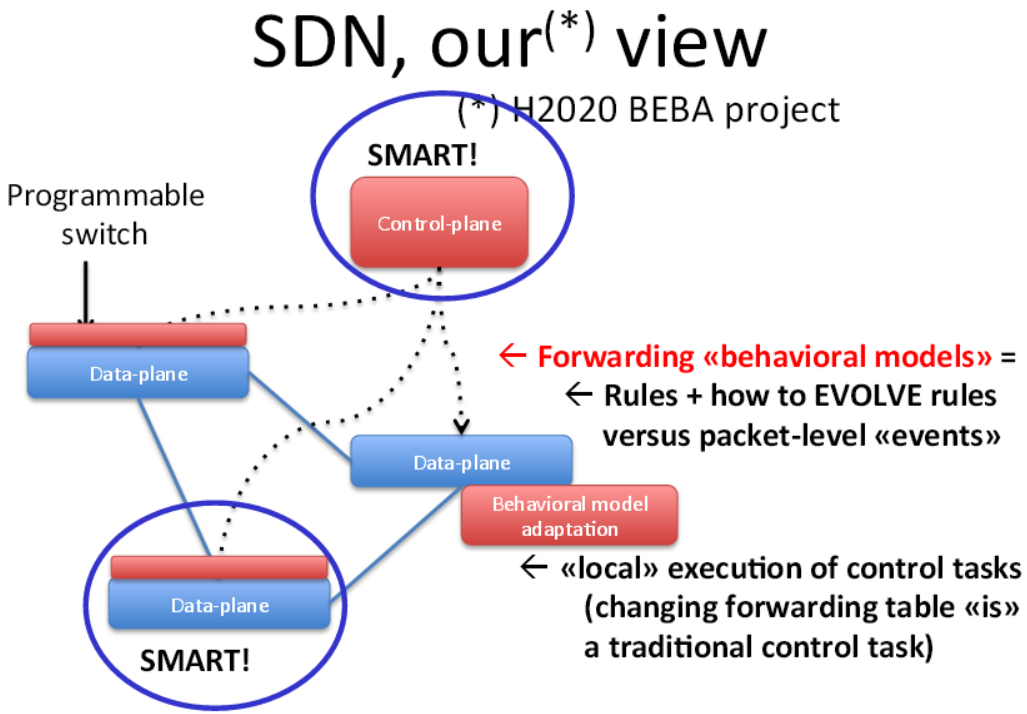
The following **objectives** have been defined:

1. Define a set of key performance indicators (KPIs) for an existing operational IP-based network
2. Define a unifying POINT communication platform with a clear specification of interfaces
3. Develop a set of networking technologies that map the common Internet abstractions onto the abstractions offered by an information-centric network
4. Develop a set of resource coordination mechanisms improving the overall utilization of the network
5. Implement and validate a POINT communication platform prototype
6. Deploy and evaluate the POINT platform prototype in a real-world field trial
7. Evaluate the commercial viability of the POINT IP-over-ICN platform as an alternative to IP networks
8. Establish POINT as a key driver in the wider ICN community

InterDigital Europe · Intracom Telecom · PrimeTel · RWTH Aachen University · University of Essex

BEBA Behavioral Based Forwarding

https://ans.disi.unitn.it/inw2015/presentations/s3-2-bianchi-beba.pdf



Smart switches → can dynamically update flow tables

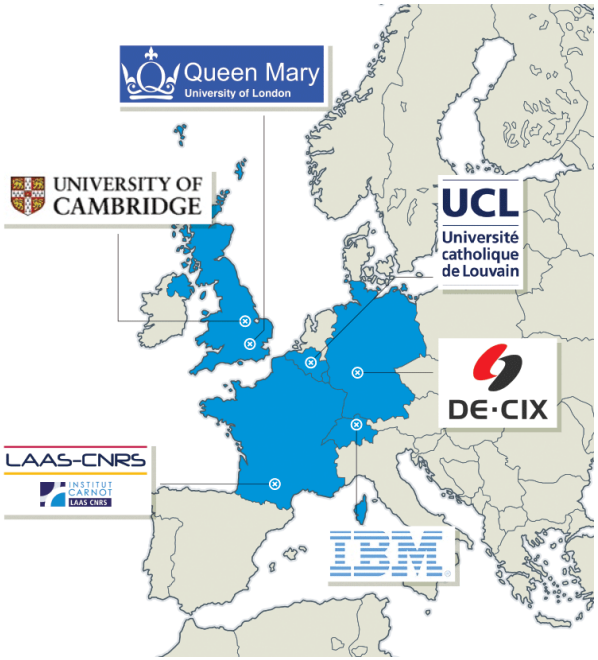
Central control → updates decided by «behavioral models»

ENDEAVOUR: Towards a flexible software-defined network ecosystem

http://www.h2020-endeavour.eu/

The focus of the project is to enable added-value services to be provided thanks to Software-Defined Networking (SDN), on top of Internet Exchange Points and other network interconnnection fabrics. The services would relate not only to the flexibility of the interconnection fabric, but most importantly to enable the content and data center ecosystem that is present at the interconnection fabric to collaborate. The ultimate goal is to create a service marketplace on top of the ecosystem composed of Cloud/data centers, networked applications, and the interconnection fabric.

The objective of ENDEAVOUR is to address current limitations of the Internet interconnection model, as well as to open the opportunity for novel services, creating the possibility for new economic models around the created ecosystems



NEAT A New, Evolutive API and Transport-Layer Architecture for the Internet

https://www.neat-project.org/

The NEAT project aims to design, develop and validate a novel transport architecture and system that allows services to be dynamically tailored based on application demands, current network conditions, hardware capabilities or local policies and that supports the integration of new functionality in an evolutionary fashion. The HITS profile focuses on the design, implementation and evaluation of novel solutions to support high quality networked services in an increasingly mobile and dynamic world, and is run in close collaboration with industry.

Simula Research Laboratory
Celerway
EMC
Mozilla
Karlstad University
Münster University of Applied Sciences
University of Aberdeen
University of Oslo
Cisco

NEAT wants to change the existing Internet architecture so that applications can easily choose amongst available transport protocol options