THE EULER NEWSLETTER

Measurements and Measurement Tools

FIRE thematic workshop collocated with the Future Internet conference
Aalborg (Denmark) - May 9, 2012

The Future Internet (FI) conference will be held on May 7-11, 2012 under the Presidency of Denmark in the EU Council. The FI Assembly (FIA) will bring together projects that have recognised the need to strengthen European activities on the Future Internet to maintain European competitiveness in the global marketplace. Currently FIA brings together research projects that are part of the ICT programme of FP7. All of these projects are advancing the state of the art in their respective areas and FIA enables open interactions and cross-fertilization across the technical domains, reaching out to talent in Europe's FI research community.

FIA is the place for fundamental discussions supported by working groups, such as the architecture of the Future Internet or a roadmap for research in Horizon 2020 (new FP8). But there is also place for one-off discussions around recent trends that when properly understood by projects will make their results more competitive and more ready for commercial exploitation.

In the framework of the FI conference activities, EULER (**http://www.euler-fire-project.eu**) organises a FIRE thematic workshop entitled "Measurements and Meaurement Tools". This workshop aims at presenting current developments on measurements and associated tools in research projects within the FIRE (Future Internet Research and Experimentation) initiative of the EU 7th Framework Programme (FP7). Measurements and measurement tools will be key elements in the operation and management of future network infrastructures, at the equipment and network performance monitoring level but also in support of higher-level control functionality such as on-line analysis and diagnostic. These tools also play a fundamental role in **measurement-based experimental research** relying on the experimental evaluation and benchmarking of project outcomes including protocols, systems, etc., by means of reliable and verifiable tools.

This workshop consists of 11 talks from 9 different FIRE European projects and a final round table. Speakers will present their current needs and developments on measurements and associated tools in the context of experimental research. It is organised in four sessions:

- Session 1: Introduction and motivation of the workshop thematic.
- Session 2: Measurement and tools needs in FIRE.
- Session 3: Presentation of tools developed in FIRE.
- Session 4: Round table discussion (how to bridge the gap).

The expected outcomes of this workshop are:

i) identify what can be performed/reached by means of cooperation between projects from a directory of tools accessible to the FIRE community at large up to the joint development of tools, under which conditions, etc.

ii) determine needs and document best practices in tools development for measurement-based experimental research.

For additional information see FIREstation wiki: **http://bit.ly/HbAxLW.**

The presentations will be made available in both the EULER and the FIREstation wiki after the celebration of the workshop.

Organizing Committee

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Registration

Attendees must follow the FI-Aalborg registration guidelines available at **http://aalborg-convention.dk/reg/reg.php?conf=FIA&regstep=start** It is important to mark correctly "Registration fee for Future Internet Week" and "Sessions → EULER" in order to guarantee enough sites in the room. The registration fee (50€) includes free access to the Future Internet Week on May 7 - 9, 2012 (all workshops) and lunches & coffee breaks during the days of the program.

Venue

FI-Aalborg is taking place at Aalborg Congress & Culture Center - a modern conference center located in the heart of Aalborg. The center is easily reached from the airport through taxi or bus and is in walking distance from the train station.
Address: Europa Plads 4, 9000 Aalborg, Denmark.

Other events at FI conference

Events, sessions and activities	**07-08/05/2012**

Life 2.0 Project Meeting
OpenIoT Project Meeting

Thematic FIRE workshops	**09/05/2012**

CREW: Experimental validation of cognitive radio and cognitive networking solutions
EU-Japan workshop on Experimental Future Internet Research
Brazil-EU cooperation ICT Research and Development

Other workshops	**09/05/2012**

Experimedia and FI-Content: Media, a driver of future Internet usage
Figaro: Smart Living, home networks in future Internet experimentation
Enoll and Smartip: Smart Cities
FInES: Translating knowledge into growth
FI-PPP: Information day

Hands-on FIRE	**10/05/2012**

Showcase FIRE Facilities and LIVE demos!

Future Internet Assembly	**10-11/05/2012**

Theme: Smart Cities
Keynotes: *ICT infrastructure as key enabler of Smart Cities*
Smart Cities and the IoTs through smart standards collaboration

Agenda

09.20   Welcome
This workshop aims at bridging the gaps between tools that have been developed, tools that can be combined for larger experiments and tools that are mature enough to start a basis for re-use by other projects.

09.30   Session 1: Introduction and motivation of the workshop
Speaker: Dimitri Papadimitriou
Introductory talk: what do we mean by measurement, in which context/experimental-research measurements are being performed, their objectives - up to which extend a measurement tool can be designed if the measurement model is not completely known, etc.).

10.00   Morning session: Tools needs and tools developed in FIRE
Session chair: Davide Careglio

10:00–10:30   HOBNET – Experimental performance evaluation of sensor-based networking for energy efficiency in smart buildings
Speaker: Sotiris Nikoletseas, RACTI, Greece
http://www.hobnet-project.eu

10.30-11.00   Coffee break

11:00–11:30   CREW – Metrics and measurement tools for assessing the channel condition in a wireless experimentation environment
Speaker: Ingrid Moerman, IBBT, Belgium
http://www.crew-project.eu/

11:30–11:50   LAWA – Methods and tools for temporal Web analytics
Speaker: Marc Spaniol, Max-Planck-Institut für Informatik, Germany
http://www.lawa-project.eu/

11:50–12:20   CONVERGENCE – Metrics and measurement tools needs in informatic-centric networking and CONVERGENCE in particular
Speaker: Nicola Blefari Melazzi, University of Rome 2, Italy
http://www.ict-convergence.eu/

12.20   Lunch

13.30   Afternoon session: Tools needs and tools developed
Session chair: Josep L. Marzo

13:30–14:00   OFELIA – Metrics and measurement tools needs in openflow
Speaker: Hagen Woesner, EICT, Germany
http://www.fp7-ofelia.eu/

14:00–14:30   OpenLab – Delivers control and experimental plane middleware to facilitate early use of its large scale shared experimental facility by researchers
Speaker: Anastasius Gavras, Eurescom, Germany
http://www.ict-openlab.eu/

14:30–14:50   EULER – Metrics and measurement tools for distributed and adaptive routing algorithms
Speaker: Dimitri Papadimitriou, Alcatel-Lucent Bell, Belgium
http://www.euler-fire-project.eu/

14.50-15.20   Coffee break

15:20–15:40   OpenLab – Measurements and measurement tools in OpenLab
Speaker: Javier Aracil, Universidad Autónoma Madrid, Spain
http://www.ict-openlab.eu/

15:40–16:00   NOVI – NOVI's experience in monitoring tools and measurements
Speaker: József Stéger, ELTE, Hungary
http://www.fp7-novi.eu/

16:00–16:20   CONECT – NITOS: Methods and measurement tools for experimentation in wireless testbeds
Speaker: Thanasis Korakis, CERTH, Greece
http://www.conect-ict.eu/

16.20   Session 4: Round table
Session chair: Dimitri Papadimitriou
Discussion about what can be performed/reached by the projects together (from a directory of tools accessible to the FIRE community until joint tools developments), under which conditions, etc.

17.00   Concluding session
Speaker: Dimitri Papadimitriou
Wrapping-up results of discussions and define possible action points and future activities.

17.15   End of the workshop

Call for papers

20th IEEE ICNP   **27/04/2012**
https://icnp12.cs.umd.edu/
October 30-November 2, 2012, Austin, TX, USA

4th meeting EURO WG on stochastic modeling   **01/05/2012**
http://www.lgi.ecp.fr/StochMod2012/pmwiki.php/Main/HomePage
May 20-June 1, 2012, Paris, France

IEEE J. Selected Areas in Communications   **01/05/2012**
In-network computation: exploring the fundamental limits

12th ACM/Usenix Internet Measurement Conf.   **04/05/2012**
http://www-net.cs.umass.edu/imc2012/index.htm
November 14-16, 2012, Boston, MA, USA

5th Int. W. Optimal Network Topologies   **06/05/2012**
https://sites.google.com/a/maths.web.id/iwont/
July 27-29, 2012, Bandung, Indonesia

4th Int. W. Reliable Networks Design and Modeling **10/05/2012**
http://www.rndm.pl/2012/
October 3-5, 2012, St. Petersburg, Russia

26th Int. Symp. Distributed Computing (DISC)   **20/05/2012**
http://www.lasid.ufba.br/disc2012/view/index.php
October 16-18, 2012, Salvador de Bahia, Brazil

EULER related publications

Publications
D. Papadimitriou, F. Coras, A. Cabellos, "Path-vector routing stability analysis", 13th W. Mathematical Performance Modeling and Analysis, San Jose (CA), June 2011

M. Latapy, C. Magnien, F. Ouédraogo, "A radar for the Internet", Complex Systems, 20(1), March 2011

F. de Montgolfier, M. Soto, L. Viennot, "Treewidth and Hyperbolicity of the Internet", 10th IEEE Int. Symp. NCA, Cambridge, (MA), August 2011

I. Atsonios, O. Beaumont, N. Hanusse, Y. Kim, "On Power-Law Distributed Balls in Bins and its Applications to View Size Estimation", 22nd Int. Symp. ISAAC, Yokohama, Japon, December 2011

C. Magnien, F. Ouédraogo, "Impact of sources and destinations on the observed properties of the Internet topology", Computer Communications, 34(5), April 2011

Public deliverables
D4.1, "Performance objectives, evaluation criteria, and metrics", April 2011
D3.1, "Graph-based topology modeling", October 2011
D3.2, "Measurement-based topology modeling", October 2011
D4.2, "Experimental methodology, scenarios, and tools", January 2012
D4.3, "Experimental tools", available online www.euler-fire-project.eu