Issue highlights

This quarterly issue of the CROSSFIRE newsletter marks the beginning of the third year of the project (September 2012 - August 2016).

Throughout the last two years, the project's consortium has conducted high-caliber research, as proven by the constantly increasing number of publications (see “Latest publications”, page 3) and the very active participation in flagship IEEE conferences (see “Participation in conferences”, page 2).

Moreover, CROSSFIRE is highly interactive with the wider research community, such as the QUALINET network of excellence on Quality of Experience (see “QUALINET general meeting”, page 3), as well as with the non-expert audience interested in the latest technological advances in the context of 4G networks and beyond (see “Public Talks”, page 4).

Moreover, CROSSFIRE continues its training activities to the recruited ESRs, by organizing seminars on cutting-edge topics, where invited are highly-recognized speakers in their fields of expertise.

Last but not least, CROSSFIRE continues to pay a lot of attention to the dissemination of the project's research outcomes, past and present activities, upcoming events, as well as general news from the wider technological community, making use of social media (see page 5).
Participation in conferences

IEEE VTC 2014

On 14–17 September 2014, Rudraksh Shrivastava (NEC) and Marco Di Renzo (CNRS) (from left to right in the picture) participated in the IEEE International Vehicular Technology Conference (VTC Fall) in Vancouver, Canada.

The IEEE VTC is a semi-annual flagship conference of the IEEE Vehicular Technology Society which brings together individuals from academia, government, and industry to discuss and exchange ideas in the fields of wireless, mobile, and vehicular technology. The conference features world-class plenary speakers, tutorials, and technical as well as application sessions. During this event, Rudraksh presented his paper titled “Virtual Cells: Enhancing the Resource Allocation Efficiency for TD-LTE”.

IEEE CloudNet 2014

On 8–10 October 2014, Nestor Hernandez (Steinwurf) and Rudraksh Shrivastava (NEC) and (from left to right in the picture) participated in the IEEE CloudNet in Luxembourg, in the context of CROSSFIRE’s special session on "Network Virtualization and QoE in Future Mobile Cellular Networks”.

The IEEE CloudNet is a part of IEEE Cloud Computing Initiative and addresses a number of aspects such as Mobile Cloud Networking, Virtualization of Network Equipment, Distributed Data Center Architectures and Services, IaaS, PaaS, SaaS, Big Data Management, etc. During this event, Rudraksh and Nestor presented their papers titled “An SDN-based Framework for Elastic Resource Sharing in Integrated FDD/TDD LTE-A HetNets” and “On the throughput and Energy of Network Coded Cooperation”, respectively.

IEEE QoMEX 2014

Eirini Liotou (UoA) participated in the 6th International Workshop on Quality of Multimedia Experience (IEEE QoMEX), held on 18-20 September 2014, in Singapore. QoMEX is an annual workshop, listed on the top 20 of all current journals and conferences in the area of Multimedia. It addresses theory and applications of measuring the quality of user experiences, based on both objective and subjective psychophysiological measures. This year’s program included presentations of novel research theories, applications and results in lecture, poster and plenary sessions. Special Sessions were organized by internationally recognized experts in the area, handling topics on Quality Fluctuations, Quantitative QoE Assessment and Media Synchronization, among others. During this event, Eirini presented the paper “Quality of Experience-centric management in LTE-A mobile networks: The Device-to-Device communication paradigm”.

QoMEX welcome reception at Sentosa Island
QUALINET general meeting

The 8th and last general meeting of QUALINET was held on 8-10 October 2014, in Delft, the Netherlands (final workshop and MC meetings). QUALINET (COST Action IC1003) is a Network of Excellence, which aims at extending the notion of network-centric QoS in multimedia systems, by relying on the concept of QoE (http://www.qualinet.eu). Eirini Lioutou (UoA) was invited to participate and give a talk in this meeting, where she had the opportunity to introduce CROSSFIRE’s research efforts and perspective on QoE. Her presentation, called “Towards Quality of Experience in LTE-A Networks”, was part of QUALINET’s WG1 Task Force on “Cloud/Web joint with QoE Management”. This event has been a marvelous occasion to interact with some of the most prestigious researchers in the area of QoE, as well as a fruitful opportunity to create a network for future collaborations.

QUALINET’s final workshop attendees, October 2014

Latest publications

Public Talks

The public talks of the ESRs from UOC and IQU were given in the Internet Interdisciplinary Institute (IN3) of the Open University of Catalonia, on November 18, 2014, Barcelona, Spain. The announcement of the talk can be found in the following link:


University of Catalonia (UOC)

- **Georgia Tseliou (UOC):**
  
The subject of Georgia's presentation was "Network Sharing and Virtualization" which was addressed within the more general context of current challenges in 5G cellular networks.

  The ESR presented a general overview of her current work within CROSSFIRE. Furthermore, she pointed out the similarities and differences among different emerging solutions within the context of her research work, such as Network Sharing, Network Virtualization and Software Defined Networking.

- **Panagiotis Trakas (UOC):**
  
The title of Panagiotis' presentation was "Challenges in 5G Cellular Networks", during which, he provided a description of his research on traffic offloading in Heterogeneous Networks (HetNets) to the attendees. In particular, he explained the trend of the global small-cell market, which will lead to densified HetNets. Furthermore, he described the necessity of using traffic offloading as the way of utilizing the plethora of the future deployed small-cells, pointing out both the network and financial aspects that the subject introduces. Finally, the presentation provided information regarding the ways traffic offloading is studied using examples of game theoretic tools found in the SoA.

IQUADRAT

- **Giorgos Kollias (IQU):**
  
  Giorgos's presentation was part of the joint talk by the UOC fellows under the concept of "Challenges in 5G cellular networks". His presentation was entitled "Short-Range Communications".

  During his presentation, the ESR described the necessity for the operators to find efficient ways to fully utilize their available spectrum under the burden of the ever increasing traffic demands. In this framework, he explained why the exploitation of short-range communications and the re-utilization of the resources among users distantly located could arise as possible solution to capacity limitations of current and future Heterogeneous Networks.
Upcoming events – Save the dates!

- CROSSFIRE will be present in IEEE GLOBECOM '14, to be held on December 8-12, in Texas, USA. Three different papers from the project’s consortium are going to be presented.
- CROSSFIRE will be actively present and co-organizer of the IEEE CAMAD '14, to be held on December 1-3, in Athens, Greece.
- CROSSFIRE’s secondments are just about to begin! In January 2015, Rudraksh from NEC, Heidelberg is visiting UoA in Athens, Georgia from UOC, Barcelona is travelling to NEC, and finally Eirini from UOA is seconded to Vodafone Group R&D, UK.
- CROSSFIRE’s next plenary meeting and new seminars on “Real life experimental tools for QoE over mobile networks” will be organized in Vodafone Group R&D, in Newbury, UK on February 17-19, 2015.

Crossfire in social media

Crossfire is present in:

- LinkedIn
- Twitter
- Wiki

So please follow us @mitncrossfire and join “CROSSFIRE” group in LinkedIn to keep up to date with the project’s progress!

The research profiles of the CROSSFIRE members may be found in the Research Gate scientific community.

The e-learning platform for the training activities of CROSSFIRE is available here: http://crossfire.uoc.es/moodle/

Some courses allow guest access.

We're on the Web!
See us at:
http://mitn-crossfire.eu/