

# FORGE NEWS

Forge Project Newsletter

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## Opening the FORGE platform - the end of the 1st round, launch of the 2nd round of proposals!

The FORGE project launched an Open Call at the end of March 2015, for the development or use of experiment-driven courses using the FORGE tools and processes together with FIRE facilities.

The first round of proposals' submission concluded on May 15th, and led to the successful submission of four very interesting proposals. These proposals cover a very wide range of requirements regarding the use and exploitation of the FORGE toolbox and demonstrate different applications of deployment of educational material over FIRE facilities. More details on the context of the proposals will be published soon at the open call page of the project's website: <http://ict-forge.eu/opencall/>.

As explained before, the FORGE Open Call is launched as continuous open access to the FORGE tools and will remain active throughout the duration of the rest of the project, i.e. until September 2016. Participants are able to submit their proposals at any time. However, in order to be able to provide optimal support to the participants and facilitate the implementation of proposals, the call is organised into consecutive phases of submission and implementation of proposals.

Thus, a second round for submission of proposals has been announced, and the cut-off date has been set to Monday, June 15, 2015.

By participating, you are offered the chance to develop your own or access already developed innovative and interactive online courses for free, acquire free access to state of the art real infrastructure and high-performance testbed facilities, enhance the teaching experience and/or improve students learning experience.

Many different types of proposals may be submitted for the FORGE Open Call, an indicative, non-exhaustive list of which is presented hereafter:

- Deployment (as-is) of a FORGE course (either one of the prototype courses that have been developed by the FORGE consortium or an external course that will be developed within the Open Call process by an external user) in the context of a real-time course offered within the curriculum of the proposing institution(s);
- Design and development of a new lab course, following the FORGE methodology;
- Further development and extension of a FORGE course;
- Transformation of a traditional course to an experiment-driven course;
- Creation of interactive educational material (e.g. editing an existing course and creation of an eBook) based on the FORGE approach;
- Development of new widgets and/or FIRE Adapters;
- Offering of a testbed for remote experimentation;
- Any combination of the above.

More details, including the official announcement, the application form, necessary documentation and FAQ, are available at the Open Call page of the project's website:

<http://ict-forge.eu/opencall/>

A permanent channel for further information and submission of inquiries has also been established, at the following address: [opencall@ict-forge.eu](mailto:opencall@ict-forge.eu). The channel is already open!

Apply for the FORGE Open Call and be entitled to:

- free access to the FORGE tools and platform
- direct liaison with the FIRE community
- use of real hardware and world class computing resources for education
- free access to GRNET's cloud infrastructure to build your courses
- free transformation of your course into an e-Book to use inside your class
- guaranteed support by the FORGE consortium, covering guided training and technical assistance

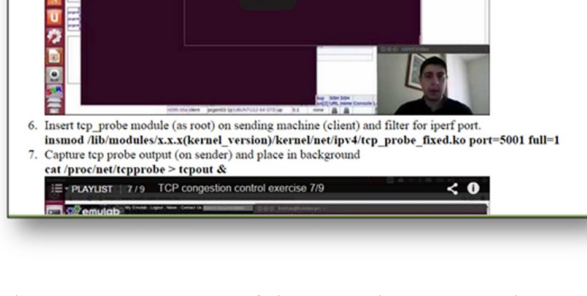


## TCP congestion control Course

The exercise that UoP deploys in the FORGE project is focused on the TCP congestion control topic. The TCP congestion control exercise is part of the "Network Architectures & Protocols I" course for the Electrical Engineering students.

The following initial competences are required:

- Computer networks
- basic network models & protocols
- Transport layer - TCP, UDP protocols
- Linux OS
- Some network tools experience (e.g. ssh)



During the course, the students are asked to answer a variety of theoretical questions about TCP and TCP congestion control, and identify situations, network conditions and behaviours without using any testing facilities or tools. Then we focus on the practical testing and evaluation of the TCP congestion control and its algorithms, using FIRE testbeds through FORGE technology (widgets and FIRE Adapters)

### Deploying the lab

Through the FORGEBox website ([www.forgebox.eu](http://www.forgebox.eu)), students are able to see a list of the 6 scenarios. After choosing a specific scenario, a student will be redirected to the corresponding webpage. All six scenarios have similar page structure. In the beginning they provide some theoretical information about the current scenario, the learning outcomes and some architectural details about the topology and settings of the experiment as next figure shows.

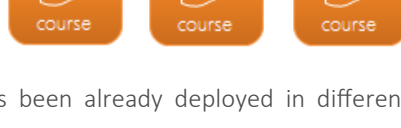
Afterwards the students can find the interface (widgets and instructions) to execute the course as depicted here:

The widgets used for this part of the exercise are:

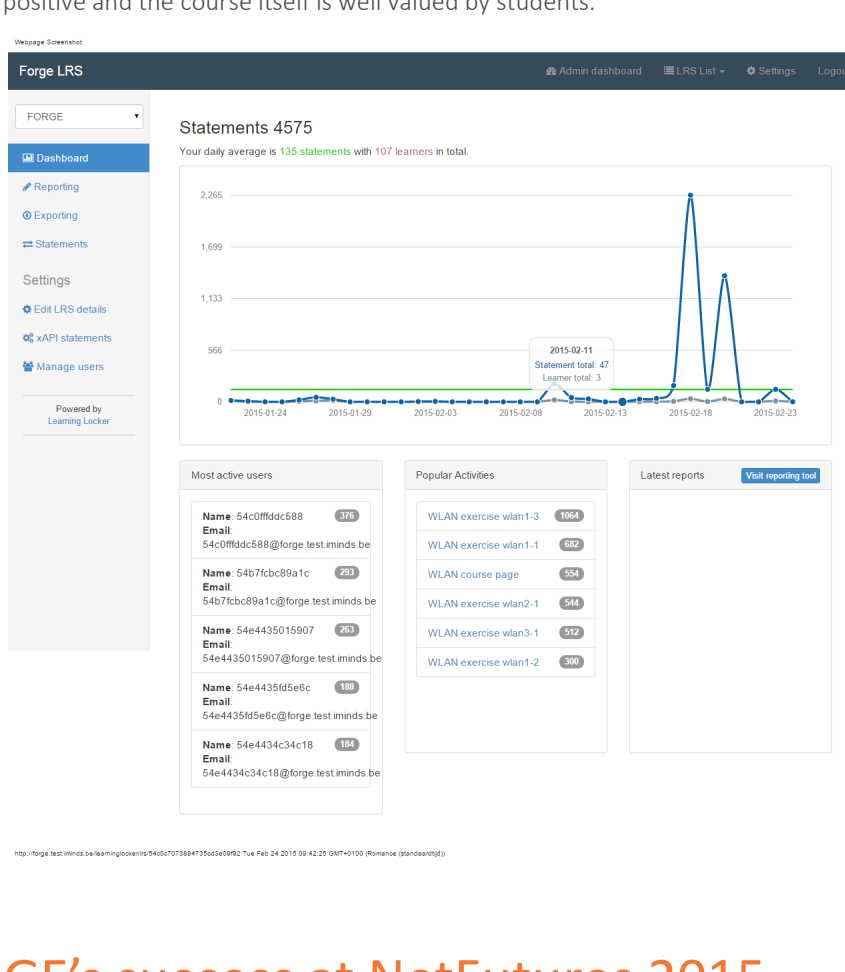
- The ssh2web FORGEBox widget:
- The RemoteGraphViewer FORGEBox widget

We have also provided videos, deployed in FORGE Vimeo channel, that explain in detail how to perform certain parts of the course and the hands-on experimentation.

## WLAN course experience (iMinds)



The WLAN performance course, provided by iMinds has been already deployed in different worldwide locations, such as Belgium, Ireland and Brazil, along the first couple of months of 2015. More than a hundred students were able to have an enhanced learning experience on top high-performance facilities located in Gent. Moreover, through the use of Learning Analytics, the performance of students can be tracked and analyzed towards to improve the performance of each student. Customized and personalized analysis can be obtained of the recorded actions of students through the LRS systems as shown in the figure below. Furthermore, different surveys were collected to assess the students experience. Such surveys reveal that the overall experience is positive and the course itself is well valued by students.



## FORGE's success at NetFutures 2015

NetFutures is the main event for EU research and innovation under DG Connect and had over 1,000 attendees this year. FORGE was heavily involved in the event. The FORGE methodology and infrastructure for supporting educational ecosystems around Future Internet Research and Experimentation (FIRE) facilities was presented in two preceding workshops. We were also present in an invitation only FIRE/GEANT meeting.

One of the highlights of the conference was the Perfect Pitch Panel where eight projects each selected by the head of their home unit competed against each other in terms of market readiness and take-up and overall economic and societal impact. Within this session John Domingue gave a live demo of the FORGE iBook including the on-the-fly creation of a simulated internet on a shared area running on a KMi server and setting up and running internet experiments on iMinds w-iLab.t test facility running in Ghent. The first demo is part of a collaboration between FORGE and Cisco where we are extending their Packet Tracer software which is used to train over 1 million network engineers globally each year. To keep the crowd entertained (the event ran from 5-7pm) a live band played during the breaks and a live cartoonist was employed (see figure). We were very happy to have been officially awarded the 'Hottest Pitch' prize which was presented by Mario Campolargo, the Net Futures Director.

