OpenCellular Project Group Update

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by Dr. Kashif Ali, project group chair, Facebook

Since we gathered at the first TIP Summit in November 2016, the OpenCellular project group has been working diligently to make affordable wireless networks a reality. The open-sourced files, including schematics, layouts and CAD drawings for the first versions of Open-Cellular are now posted in the project group! We encourage you to have a look and most importantly, give feedback and start engaging.

Working groups

We have added new leaderships roles to drive specific initiatives inside the broader project group. We are forming three working groups to manage radio access, testing automation, and deployment and new application initiatives.

- **Radio access** track will focus on 3GPP compliant cellular access technology and is co-lead by Jean-Francois Lacasse and David Bourget of Cavium and Nuran wireless, respectively.

- **Test automation** focus is to standardize the testing and measurement for OpenCellular hardware, specifically around production. The test automation track is led by Mark Buffo of Keysight.

- **Deployment and application** track focus is to gather various design specifications around rural deployment, and initiate innovative applications using OpenCellular, e.g., disaster recovery, M2M, and so forth. The deployment and application track is co-lead by Mike Darcy and Lance Condray from AMN and Facebook, respectively.

In the future, we plan to add more working tracks based on the community needs.

Nuran: SDR Beta Release

We will announce a release date this summer to purchase complete units directly from Nuran, our first OEM partner. Nuran has been a key development partner on both the SDR and LTE platforms, and will insure proper supply and distribution of both versions. NuRAN is showcasing an OC-SDR prototype unit at their booth 7H40. Stay tuned for more details.

Cavium: 4G LTE / LTE Advanced Base Station Platform

We've been working with Cavium on a 4G LTE / LTE-Advanced base station hardware and software. Cavium will contribute and support the design of full production-ready hardware for a single sector LTE 2T2R MIMO eNodeB that is capable of serving 64/128 simultaneous users. Cavium will provide the complete 3GPP compliant base station software stack and open source access to certain software APIs to allow the community to enhance the capabilities of the LTE base station. Cavium will be demonstrating OpenCellular LTE version at

MWC'17 at their booth 2M33, make sure to check it out!

Keysight: Test Automation Contribution

In addition to the formation of the test automation working group, Keysight will also be contributing open source code that will enable testing and measurement of OpenCellular hardware with the aim of standardizing its production and adoption. The source code will initially support GSM, with enhancements to LTE that will enable easy migration by the TIP ecosystem. A video demo of a Keysight test solution running on OpenCellular hardware can be seen at the Keysight booth 6G10 (www.keysight.com/find/MWC2017).

Fairwaves: OEM and Field Partner

Fairwaves is developing software and will be soon be trialing units in the field at rural African sites. They will be leading the efforts on the next-gen of Software-define Radio (SDR). They have extensive experience with software-defined mobile architecture and SDR, and are a great addition to the OpenCellular community.

As a project group, our mission is to develop a vibrant open-source ecosystem of contributors, manufacturers, distributors and system integrators for OpenCellular technology so we can connect more people across the world. We're proud of what we've achieved with our partners so far and encourage anyone interested in joining our efforts and becoming a member of TIP to contact us here.