



**UK-China Science Bridges:
R&D on (B)4G Wireless Mobile Communications (UC4G)**



Notes of UC4G WP4 Discussions at Shanghai Workshop 2010

Xuemin Hong

Date/time: 4:45-5:15pm, Sun. 12th September 2010

Venue: Shanghai Research Center for Wireless Communications, Shanghai, China

Attendee: About 40 attendees to the Shanghai workshop

Attended PMC members: Cheng-Xiang Wang, Mike Fitch, Yang Yang, Huang Hua

Overview of discussions

Dr Cheng-Xiang Wang chaired the meeting. He briefly overviewed the WP4 progress so far. Dr Xuemin Hong has done some initial investigations and suggested three promising solutions to build the testbed. The first solution is based on standard instruments, the second solution is based on modular instruments, and the third solution is based on commercial testbeds. Xuemin has chosen the second solution as the most preferred one due to its scalability. CXW asked for everyone's opinion on this.

Prof. Tim O'Farrell from Swansea Univ. described a testbed developed in his university. This testbed is based on standard instruments, i.e., based on the first approach. He commented that standard instruments are quite expensive and the available WP4 budget may not be sufficient to purchase instruments to form a MIMO system. Dr Mike Fitch and Xuemin agreed with Tim. Xuemin added that standard instruments are expensive because their RF subsystems are manufactured with a high standard, which is not necessary for a testbed.

Mike commented that it is important to identify proper and novel technologies to be implemented, which will help to define the design of the testbed. He proposed to first run a Call for Proposal (CFP) to identify proper technologies, after which the testbed design can be discussed. Cheng-Xiang agreed with Mike's suggestion to run a CFP. However, Cheng-Xiang proposed that the testbed development should not wait for the result of the CFP but should be run simultaneously. After some discussions, a consensus was built that the CFP and testbed development should be performed at the same time.

Dr Jian Sun from SDU described a testbed developed in his university based on commercial testbeds, i.e., the third approach. He commented that commercial testbeds are less expensive than standard and modular instruments. After some discussions, a consensus was built to further investigate the cost of modular instruments and commercial testbeds. Modular instrument will be selected first as the way forward if it is affordable and manageable. Otherwise, commercial testbeds will be considered.

Summary

Two consensuses were reached after discussions in the Shanghai Workshop.

1. A CFP of candidate technologies to be demonstrated will be issued soon. Meanwhile, development of the testbed will continue.
2. The two testbed solutions, i.e., modular instruments and commercial testbeds, will be further investigated and compared in terms of cost, complexity, scalability, etc. If affordable, the testbed will be based on modular instruments. Otherwise, the testbed will be based on commercial testbeds.