IEEE ComSoc Technical Committee on Power Line Communications

Globecom 2007, Committee Meeting

Washington, November 29, 2007

Present: 11
1. James Won-Ki Hong (AM)
2. Moises Ribeiro
3. Jim Mollenkopf (AM)
4. Vamsi Paruchuri
5. Riccardo Raheli
6. Stefano Galli (AM)
7. Lutz Lampe (AM)
8. Niovi Pavlidou
9. Ralf Lehnert (AM)
10. Robert Jaegly
11. Daniele Veronesi

On the Phone: 4
1. Richard Newman (AM)
2. Gerd Bumiller (AM)
3. Haniph Latchman (AM)
4. Bahram Honary (AM)

Agenda

1. Welcome and introduction
2. Approval of previous meeting minutes
3. Overview of current activities
4. Report on progress of ISPLC 2008
5. Report on standardization activities
6. Presentation of the two received proposals to host ISPLC 2009:
    - Prof. Lehnert (Dresden, Germany)
    - Prof. Ribeiro (Rio de Janeiro, Brazil)
7. Vote on venue for ISPLC 2009.
8. Nomination of members for the Election & Nomination Committee (election of TC officers for the 2008-2009 term).
9. Other issues brought up by members
10. Adjourn

Meeting Minutes

1) Chair Stefano Galli calls meeting to order at 12pm, and reminds of agenda.

2) Approval of previous meeting minutes

Minutes approved with no opposition.

3) Overview on current activities

Conferences

Only 4 PLC papers were accepted at IEEE Globecom 2007, just enough for a half session. The lack of contributions of PLC papers at Globecom conferences is still a problem.

There will be a PLC track in the General Symposium of IEEE Globecom 2008, as in previous years. Andrea Tonello will be the Co-Chair of the General Conference.

Ralf Lehnert reported on the 1st Vertical Workshop on "Network Design and Protocol Engineering for Power Lines" that he organized in Sep.2007 at the Technical University of Dresden. Details reported in Appendix A.

Niovi Pavlidou mentioned that the 2nd Vertical Workshop on Applications, and it could be organized in Athens for Sep. 2008. Ralf will share experience. Decision will be finalized at next TC-PLC meeting (ISPLC)

Awards and Nomination Committee

The ANC consists of one TC-PLC officer and between two to four TC-PLC members. The TC-PLC officer is appointed by the TC-PLC Chair and chairs the ANC. The other ANC members are elected at ISPLC. The term of all ANC members is two years. The current A&NC, with a term until ISPLC 2009, consists of the five following members: Lutz Lampe, Chair; Ralf Lehnert; Jim Mollenkopf; Richard Newman; Shinji Tanabe.

The A&NC proposes that awards will be solicited by email from the TC-PLC members immediately after GLOBECOM with nominations due March 1st of the year the awards are to be made. The nomination should include a concise rationale, be supported by at least two TC-PLC members, and be sent to the Chair of the Awards & Nominations Committee (ANC). Recommendations can also be made by the ANC. Current ANC Committee members and the TC-PLC Chair cannot be nominated. The awards are decided by the ANC and made annually, provided that suitable candidates have been identified. The awards are presented at a ceremony during ISPLC.

The A&NC also proposed to create the following two TC-PLC awards.

- TC-PLC Outstanding Service Award
- TC-PLC Inter-disciplinary Research and Application Award

This Outstanding Service Award shall recognize members of the Technical Committee on Power Line Communications (TC-PLC) who have a distinguished record of service to the PLC community. Such service includes initiation of and participation in technical and administrative activities that foster the development of PLC at large, leadership roles within the TC-PLC, organization of conferences and workshops, and promotion of TC-PLC activities and interests in the broader research community.

The Inter-disciplinary Research and Application Award shall recognize members of the Technical Committee on Power Line Communications who have made significant technical and/or business contributions through inter-disciplinary research and/or application of PLC.

The AMs voted unanimously to support the work of the A&NC.

PLC document database

A new bibliographical tool for helping PLC researchers has been added to the ISPLC website (http://www.isplc.org/). This "PLC DocSearch" queries the IEEE Xplore database on the basis of keywords input by a user, but further processes the response of Xplore and returns only papers that actually address PLCs. This tool was realized with funding from the VP-TAC Sergio Benedetto whose cooperation is gratefully acknowledged. AEÜ papers on PLC should be sent to Lutz by Ralf Lehnert.

This tool well complements the database containing the ISPLC proceedings from 1997 to 2003 that Lutz Lampe helped realizing.

4) Report on ISPLC 2008

James Wong reported on the ISPLC 2008 organization. Lower than expected submissions were received but the deadline was further extended to mid December to allow more time to authors. Moreover, tighter collaboration with IEEE was being pursued and many TPC members volunteered to solicit papers personally. Ralf Lehnert will send list of Chinese PLC experts to James Wong. Ralf also will contact Orth (WTC 2008) to introduce PLC in the CFP.

5) Report on standardization activities

Jim Mollenkopf reported on the latest developments in IEEE standardization, his report can be found in Appendix B.

Stefano Galli also reported on the activities of ITU-T G.hn, which is part of Study Group 15,

Question 4. This activity pursues the standardization of a single PHY/MAC for data communications over the three most common wires found in the home: coax, phone wires, and power lines. Stefano also added that the TC-PLC should follow G.hn closely.

6-7) Presentation of the two proposals to host IEEE ISPLC 2009, and TC vote

Prof. Lehnert presented his proposal to host ISPLC 2009 in Dresden, Germany. The presentation by Prof. Ribeiro to host ISPLC 2009 in Rio de Janeiro, Brazil, followed.

An intense debate followed the two presentations, and the Active Members (AMs) were basically split between the two proposals. AMs voted as follows:

- 4 in favor of Dresden
- 3 in favor of Rio de Janeiro
- 2 Abstained

ISPLC 2009 will be held in Dresden. Given the close voting results, the AMs also voted unanimously to decide immediately to hold ISPLC 2010 in Rio de Janeiro.

Prof. Lehnert graciously invited Prof. Ribeiro to serve as TPC co-chair for ISPLC 2009.

8) Nomination of members for the Election & Nomination Committee

The two year term of the current TC-PLC officers will end in March 2008, so new elections are necessary. As per the TC Policies and Procedures, the E&NC was formed and the three AMs who volunteered to serve on the committee were: Jim Mollenkopf, Haniph Latchman, and Ralf Lehnert.

8) Other issues brought up by members

None.

9) Adjourn

The meeting was adjourned at 3:45 pm

FINAL DRAFT – Stefano Galli.

Appendix A

1st Workshop on Network Design and Protocol Engineering for PLCs
6-7 September, Technische Universitaet Dresden
Dresden Germany

Preparation
The workshop was announced on 19 April and several times afterwards. We finally received 10 submissions after an extension of the deadline to 27 July. We accepted all contributions. Three contributions were withdrawn as the presenters were unable to attend. Two experts were invited to give survey talks (Stefano Galli and Halid Hrasnica). A fee of 90 Euro was charged to cover coffee breaks, lunch and the social event (city tour and dinner).

Participation and Workshop Schedule
Twenty people attended the workshop, of which nine were presenters. Participation was quite international: China, Denmark, France, Italy, Germany, Spain, South Africa, UK, USA. The workshop began on Thu 10:00 h and ended on Fri 13:30 h. Abbreviated versions of all presentations will be soon posted on the website.
Although three presentations were canceled due to absent participants, all of the 'spare' time has been consumed by an intensive discussion. Especially crosslayer issues between the PHY and MAC layer gave rise to a detailed dispute among the participants. For the future, an extra time slot for ad hoc discussions should be foreseen.
Although there is an established theory in how to analyze the performance of communication protocols (queuing theory, Markov chains, and simulation), PLC protocols are more complex due to the crosslayer problems.

The following open topics were found for further study:
- efficient MAC protocols and routing for multi-hop connections
- adaptive MAC for time-variant PLC topologies
- support of multicast in PLC
- optimum topology design on a given PL topography (PLC cell size, repeater placement)
- efficient multiple acknowledgements (control of many substations) for smart grid applications

Overall the workshop was regarded to be successful. It attracted people from outside the ISPLC. Further workshops should be held on channel modeling and coexistence issues.

Additional details can be found on the workshops website
http://www.ifn.et.tu-dresden.de/tk/Events/WSPLC07/

-- Ralf Lehnert, Le Phu Do, Workshop Organizers

Appendix B

IEEE Standardization Report

The IEEE has three active BoPL standards efforts underway:

P1901 -   Sponsored by ComSoc, this effort is aimed at developing a MAC/PHY standard. It operates under the IEEE Corporate Standards Program, where entities have voting rights rather than individuals.   At present, 48 organizations are members of P1901.   The last several months have been very active in P1901, as technology proposals have been submitted and downselection has begun.   A number of proponents have begun to merge their technology proposals, and approval votes to move to a draft baseline are scheduled for all the clusters of the standards are scheduled for the next two meetings.   As with any contested standard, the downselection process is generating intense activity and discussion.   (A number of recent press articles have featured various participants highlighting their positions as they attempt to gain support.)   Once a baseline draft is settled upon and approved, the draft will undergo additional work to finalize and get it ready for Sponsor ballot submission.

P1675 -   This effort is focused on developing hardware test and installation standards, and is sponsored by the Power Engineering Society.   This standard is scheduled to go out for ballot in the next few days.   This working group is sponsored by the Power Engineering Society.

P1775 -   The P1775 Working Group is developing a standard for EMC test and measurement procedures for BPL equipment and installations. The Working Group has completed a draft standard and submitted it to a joint committee of PES, ComSoc, and EMC Society members for approval before going to ballot.   The Committee rejected it for editorial and other reasons.   The P1775 Working Group is refining the standard before resubmitting the draft to the Joint Committee to accept the draft and move to the balloting process.   This working group is co-sponsored by the EMC Society and the Power Engineering Society.

-- Jim Mollenkopf