

From moustafa@cs.umd.edu Thu Sep 22 20:38:43 2005
Date: Tue, 20 Sep 2005 23:04:18 -0400
From: Moustafa Youssef <moustafa@cs.umd.edu>
To: manet@ietf.org
Subject: [manet] CFP: Journal of Computer Communications Special Issue on
"Sensor-Actuator Networks (SANETs)"

(Our apologies if you receive multiple copies of this CFP)

Call for Papers
Journal of Computer Communications
(<http://www.elsevier.com/locate/comcom>)
Special Issue on "Sensor-Actuator Networks (SANETs)"

Sensor-Actuator NETWORKS (SANETs) are comprised of networked sensor and actuator nodes that communicate among each other using wireless links to perform distributed sensing and actuation tasks. The recent few years have witnessed an increasing interest in the potential use of SANETs in many applications ranging from healthcare to warfare. In these applications, sensors are engaged in gathering information about the physical environment, while actuators are involved in taking decisions and then performing appropriate actions in the area of interest. This enables SANETs to provide remote sensing and actuation services to their users.

SANETs are heterogeneous networks having widely differing sensor and actuator node characteristics; while sensor nodes are small, inexpensive, usually static devices with limited computation, communication and energy resources, actuator nodes are resource-rich and usually mobile. Also, the number of sensor nodes deployed may be in the order of hundreds or thousands. In contrast, actuator nodes are smaller in number due to the different coverage requirements and physical interaction methods of actuation. Typically, a deployed SANET is expected to operate autonomously in unattended environments. Operational requirements of SANETs may vary according to a network's mission defined over a multi-dimensional context, such as field of deployment (e.g., hostile versus friendly), type of application (e.g., monitoring, tracking, intrusion detection and mitigation), mode of operation (e.g., normal, exception, post-event recovery), and time. In SANETs, depending on the application, there may be a need to rapidly respond to sensor input. Moreover, so as to provide right actions, sensor data must still be valid at the time of acting. Consequently, the issues of real-time communication and coordination are vital in SANETs. Finally, to realize their potential, dependable, secure, application-aware design and operation of SANETs have to be ensured.

Apparently, research is needed to resolve the many complicating issues that may impede wide-scale SANET adoption. This special issue of the Journal of Computer Communications will be designated for reporting on recent research results on SANETs. It is expected that non-conventional techniques more suited to the characteristics of SANETs need to be employed. Also, in many cases trade-off would be necessary in order to ensure practicality by dynamically setting bounds on aspects such as dependability, security, and QoS. Papers presenting original and unpublished work are being solicited. Topics of interest include, although not limited to, the following:

- Sensor-actuator coordination and communication
- Architectural and operational models
- Robust routing and MAC protocols
- Fault and attack resilience middleware
- Models, metrics and measurements
- Self-aware and autonomous networks

- Localization and mobility
- Energy-efficient cross-layer protocols
- Security, dependability, privacy and QoS issues
- Network management
- Formal representation and verification
- Network inference (tomography, etc.)
- Testbeds, simulation and visualization
- Novel applications of sensor and actuator networks

** Submission deadline: February 15 , 2006

** Decision notification: May 15, 2006

** Final manuscript due: July 31, 2006

** Publication date: 1st Quarter 2007

** Submission instructions:

Prospective authors should submit their paper and inquiries electronically to toweissy@vt.edu. The manuscript should not exceed 30 double-space pages in PDF. The manuscript should be in a single column font size 11 or larger format. The first page should include title, authors' contact information, an abstract and five keywords. Authors should include the paper abstract in their message.

** Guest Editors:

Mohamed Eltoweissy:
The Bradley Dept. of Electrical & Computer Eng.,
Virginia Tech, USA,
toweissy@vt.edu

Silvia Giordano:
Dept. of Informatics & Electronics, Univ. of Applied Sci.,
Switzerland,
silvia.giordano@supsi.ch

Stephan Olariu:
Dept. of Computer Science,
Old Dominion University, USA,
olariu@cs.odu.edu

David Simplot-Ryl:
IRCICA/LIFL, University of Lille 1,
INRIA Futurs, France,
David.Simplot@lifl.fr

manet mailing list

manet@ietf.org

<https://www1.ietf.org/mailman/listinfo/manet>