Call for Papers

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Special Issue on Wireless Networks Intrusion

Overview:

The security mechanisms for various wired networks are more or less well-defined. Especially when intrusion detection and prevention techniques are considered, wired networks appear to be in a much better status than their wireless counterparts. Indeed, security concerns are, still, a significant impediment to widespread adoption of wireless network technologies. Because of the use of wireless communications technology, structure of the wireless networks, limited resources available on wireless devices, and open nature of wireless communications, employing an effective and efficient intrusion detection and prevention system for detecting and thwarting malicious attacks against wireless communication still remains a great challenge to researchers. On the other side, recent increase in the interest in anywhere, anytime, anybody’s network with the aid of wireless self-organizing networks has made the demand of effective intrusion detection and prevention techniques even more critical. We consider four types of wireless networks under wireless self-organizing networks (SON) category: Mobile Ad Hoc Network (MANET), Wireless Sensor Network (WSN), Wireless Mesh Network (WMN), and Vehicular Ad Hoc Network (VANET). The status quo of these networks lacks standardized mechanisms for intrusion detection and prevention. In particular for WSN, with limited resources of the involved tiny sensor nodes, employing such defensive and/or preventive mechanisms is, indeed, a tough challenge. If the system is distributed, the nodes may not be able to run the system; if centralized and controlled by the base station, the system may not serve the actual purpose of intrusion handling within the actual deployed network. We are interested, in this Special Issue, to put together the latest advancements in these related areas and to get the thoughts of the researchers, practitioners, and users of these technologies. The articles could be from the theory and/or practical perspectives. Extensive review articles on specific topics are most welcome. The articles are expected to touch up on any of the four types of SONs, namely MANET, WSN, WMN, and VANET. The targeted topics for this special issue are (though the list should not be considered exhaustive):

- Intrusion detection schemes
- Intrusion prevention schemes
- Tracing back mobile attackers
- Secure routing with intrusion prevention
- Access control
- Authentication mechanisms
- Resource efficient intrusion detection & prevention
- Anomaly detection
- Specification based detection
- Misuse detection
- Intrusion detection vs Intrusion prevention
- Artificial Intelligence (AI) based techniques
- Game theory based techniques
- Physical intrusion in WSN
- Cross-layer based intrusion detection
- Agent based intrusion surveillance, detection and prevention
Important Dates:

Manuscript due date: November 30, 2012
First round review notification: February 28, 2013
Revised paper due: March 30, 2013
Notification of acceptance/rejection: April 25, 2013
Submission of final manuscript: May 15, 2013

Submission Guidelines and Review Process:

All papers should be submitted via email to the corresponding editor at sakib.pathan@gmail.com (with a CC to sakib@iium.edu.my). Please mention in the subject line of the email, “JCSS-SI_WNI”. CC to all editors is also encouraged. Please find the Manuscript preparation guideline here: (http://www.elsevier.com/wps/find/journaldescription.cws_home/622867/authorinstructions#20000).

Each paper will be reviewed by expert reviewers working on the relevant areas. Each submission must be original, unpublished, and must not be under review elsewhere.

In addition to the regular open submissions, selected accepted and registered papers from the 5th International Conference on Internet and Distributed Computing Systems (IDCS 2012) (http://www.cloudbus.org/cdn/idcs12/) will be invited for inclusion in this special issue after significant revision and extension.

Guest Editors:

Al-Sakib Khan Pathan (Corresponding Editor)
Department of Computer Science, KICT
International Islamic University Malaysia, Malaysia
Email: sakib.pathan@gmail.com, sakib@iium.edu.my

Zubair Muhammad Fadlullah
Electrical and Computer Engineering,
Graduate School of Information Sciences,
Tohoku University, Japan
Email: zubair@it.ecei.tohoku.ac.jp, zmfadlullah@gmail.com

Mostafa Fouda
Graduate School of Information Sciences
Tohoku University, Japan
AND
Electrical Engineering Department, Faculty of Engineering
Benha University, Egypt
E-Mail: mfouda@ieee.org

Hae Young Lee
CPS Research Team
ETRI, South Korea
Email: haelee@etri.re.kr