Guest Editorial to Special CACS Issue on AICCSA 2008

I am both honored and pleased to be the guest editor of this special section of the Communications on the Arab Computer Society on the ACS/IEEE International Conference on Computer Systems and Applications (AICCSA), which was held in Doha, Qatar from March 31 to April 4, 2008. This section contains extended versions of three selected papers from AICCSA 2008. These papers have been regarded as some of the best papers presented at the conference.

The first paper, *Performance Analysis of Identity Management in the Session Initiation protocol (SIP)* authored by Yacine Rebahi, Nguyen Tuan Minh and Ge Zhang describes an implementation of the RFC 4474 standard that provides user identification in the SIP. The authors integrate elliptic curve cryptography in their implementation and show that this integration introduces performance enhancement over the use of RSA algorithm, which is recommended by the RFC 4474.

The second paper, *Semi-Automatic Snake-Based Segmentation of Carotid Artery Ultrasound Images*, by Sherif G. Moursi and Mahmoud R. El-Sakka presents an efficient algorithm for extracting carotid artery lumens in ultrasound images. The goal of the algorithm is to automatically and accurately extract contours that have good quality, at reduced levels of noise. This is done by utilizing a rule-based scheme to generate initial contours for the lumen, which is then refined using an active contouring segmentation technique, known as the snake scheme. The results confirm the accuracy of the proposed algorithm.

The third paper, *A Hybrid Connection Admission Control Scheme for QoS Enhancement in UMTS/WLAN Overlay Networks* by Tarek Bejaoui and Nidal Nasser introduces a hybrid and adaptive Call Admission Control (CAC) protocol for UMTS cellular networks with underlying tunnel-WLANs. This CAC policy is proposed to limit the occurrence of hard IEEE 802.11 WLAN-UMTS handovers, hence supporting multimedia applications which might be affected by such handovers. The strategy is based on the service class differentiation, the location in the heterogeneous infrastructure and a vertical handoff decision function as well. The results show that the proposed policy achieves significant performance improvements, and maximizes the utilization of the resources available at the WLAN cells, which leads to meeting as much as possible the QoS requirement of higher priority users.

I hope that you will enjoy and benefit by reading these papers.

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