Preface

The third Edition of the African Journal of Information and Communication Technology continues the tradition of selecting papers that have potential for significant impact and also satisfy the interest of its highly diverse readers. This issue presents papers in computing and the Internet. It has three major papers dealing with cryptography, service creation and protocols.

The first paper by Ahmed, Kalash and Allah applies cryptographic techniques for securing digital images. The authors have the "encryption quality of RC6 block cipher is investigated among its several design parameters such as word size, number of rounds, and secret key length and the optimal choices for the best values of such design parameters are given. Also, the security analysis of RC6 block cipher for digital images is investigated from strict cryptographic viewpoint. The security estimations of RC6 block cipher for digital images against brute-force, statistical, and differential attacks are explored". They tested the security of RC6 block cipher for digital images against various types of attacks. They concluded that "RC6 block cipher can be considered to be a real-time secure symmetric encryption for digital images".

Atanasov and Pencheva in the second paper present "a new mark-up approach to service creation in Next Generation Networks. The approach allows access to network functions exposed by open application programming interfaces. Based on ontology analysis of the application domain, language constructions are synthesized and formally defined". The paper develops language supporting tools.

Over the years, multiple enhancements to the Transport Control Protocol (TCP) have been published. Standard TCP semantics such as end-to-end flow control, congestion control mechanisms and error recovery provide reliability in wired networks. However, wireless communication systems have different characteristics when compared to wired networks that include higher bit error rates, higher latency, limited bandwidth, multipath fading of the signals and handoff. These differences in network characteristics often dictate enhancements to TCP. In this paper, Chandra and Harris propose an enhancement to TCP which improves upon conventional TCP when it is applied to the wireless environment. The results in the paper show significant improvements to TCP performance with respect to packet loss detection.

This Issue also contains an open call for papers on broadband IP communication and services including IPTV, Voice over IP (VoIP), worldwide interoperability of microwave access (WiMAX) and mobile broadband wireless access (MBWA). We commend this Issue to you.

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