Preface of HiCEC’10

The 2010 International Symposium on High Confidence Embedded Computing

As the complexity of embedded software systems increases, new challenges beyond those focusing solely on high-confidence guarantees are becoming increasingly significant. For a system to be truly dependable it must guarantee that any unexpected behaviors, or software faults, do not manifest in a way that violates contracts between service providers and users. Should unforeseen faults during software execution occur, it is possible that the whole system will be crashed.

Embedded systems are also closely related to nowadays daily life, which reside from smart appliances to unmanned vehicles. With the rapid development and the increasing complexity of embedded system, traditional security technologies and measures cannot meet the demand for integrated and dynamic security solutions. As a result, the design and implementation of trust and safe embedded software and systems have utmost importance. As a challenging and innovative research field, Confidence computing for embedded system target new theory, methods and technologies regard to security, safety, privacy, reliability, dependability, survivability, availability, and fault tolerance aspects of computer systems and software.

The goal of HiCEC 2010 is to provide a forum for scientists, engineers and researchers to discuss and exchange novel ideas, results, experiences and work-in-process on all aspects of this highly challenging research field. The topic includes but not limited to: Trust semantics, metrics, and models for embedded system, Architecture and implementation technologies for trusted embedded platforms and trustworthy infrastructures, Implementations of trusted embedded computing (covering both hardware and software), Applications of trusted embedded computing, Verification of trusted embedded computing architectures, etc.

HiCEC2010 have collected 23 papers about embedded software theoretical research and system development and practical technical reports. Through a careful review process, we selected 8 high-quality papers for presentation in the symposium and inclusion in the proceedings.

The Organizing Committee of the HiCEC 2010 conference is acknowledged for making local arrangement for HiCEC 2010, and thanks to the kind assistance from the UIC’10 general chair Prof. Daqing Zhang, program chair Prof. Zhiwen Yu and the constant encouragement from the workshop chair Prof. Robert C. Hsu and Dr. Noura Limam, steering committee Jianhua Ma and Laurence T. Yang. We wish you have good time to stay in Xi’an, and we hope that you will find the symposium interesting and fun!

Baowen Xu, Xingshe Zhou and Yunwei Dong, HiCEC 2010 Co-Chairs