

# Applications security in manycore platform: from operating system to hypervisor

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## Abstract

Manycore architectures correspond to an important computation paradigm shift for modern embedded systems. Secure execution of parallel applications on manycore architectures represents a major concern since this kind of architecture will be massively deployed in the future both in infrastructure such as "cloud computing" and in most embedded systems constrained in resources and performance. It is thus essential to address the question of the definition of these architectures in terms of not only performance but also security in order to ensure a large adoption of these technologies by end users. In this presentation we will introduce the TSUNAMY project and focus on the following points: 1) operating system services extension in order to deal with physical and logical applications isolation, 2) virtual machine secure execution within a manycore platform and 3) hypervisor mechanisms for a trusted deployment of virtual machines. All these contributions rely on the TSAR manycore architecture and on the ALMOS operating system.