Design Exploration Framework for In-node Processing in Smart Sensors

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Abstract text Connected devices, once concept is now becoming a reality because of growing acceptance of concept, Internet of Things (IoTs). Connected devices apart from being transformative technologies will also result in challenges such as big data. Sensors producing raw data will be one of the major contributors to big data challenge. To identify this challenge before actual implementation, we have developed a framework which provides a systematic approach to model systems with connected devices, integrating sensors and actuators. A designer can describe a system in the framework which in turn generates different implementation alternatives, exploiting the locality and software process movement features of the system. Each alternative implementation shows locality of the tasks and cost functions e.g. energy and latency. The illustration of the framework with a use-case shows that generated solutions can be effectively used for selecting a suitable solution for actual implementation based on the requirement of the application.