Abstract: Dynamic Reconfigurable Hub as a Stationary Node in the Hybrid Sensor Network

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Abstract

The sensor network system is being expanded with the development of technology to design the low-power chip and to operate for the sensor network. However, it is difficult to modify or change an application for the stationary sensor node after installation in the field. Furthermore, there is a limit to installation after developing and testing a new sensor node if it needs to reconfigure software and hardware of existing sensor node. Therefore, it needs not only software reconfiguration but also the hardware dynamic reconfiguration for various changes of requirements such as sensor type, communication bandwidth, quality of service, reducing power consumption depending on changing environment and user’s requirements. This paper proposes a specially designed stationary node called SMART (System Management Architecture for Reconfigurable Technology) Node that is capable of dynamic reconfiguration of the various sensing functions or communication protocols. The SMART Node can provide a suitable service and change the communication protocol according to various surroundings, user requirements.

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