

## Documents

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**Hybrid utilisation of Wi-Fi for sensor integration in a reconfigurable infrastructure management**

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**Abstract**

In this paper we present the integration of sensors for ad hoc applications using Wi-Fi connectivity in order to achieve reconfigurability and scalability of a project infrastructure management. Many of the user equipment will be shifted based on varying purpose and reconfiguring projects. Apart from strategic sensors, infrared observation systems, movement estimators, proximity sensors, there are several static sensors which also need to be relocated based on purpose driven reconfiguration. It has been found that several scenarios of reconfiguring the sensors exceeds the ZigBee dimensions and they need to get resorted to the design of Wi-Fi based information exchange. In our design, based on bandwidth utilization of the sensors, we engage a low power Wi-Fi system-on-chip (SoC) based on IEEE 802.11 standard. The chip is used to interface with the low bandwidth sensors and for the case of network surveillance cameras where the video streaming is occupying larger bandwidth, a cognitive radio design approach is engaged. © 2012 IEEE.

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