Internet of Things (IoT): A Review of Enabling Technologies, Challenges, and Open Research Issues

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Abstract:

IoT (Internet of Things) is a new paradigm which provides a set of new services for the next wave of technological innovations. IoT applications are nearly limitless while enabling seamless integration of the cyber-world with the physical world. However, despite the enormous efforts of standardization bodies, alliances, industries, researchers and others, there are still numerous problems to deal with in order to reach the full potential of IoT. These issues should be considered from various aspects such as enabling technologies, applications, business models, social and environmental impacts. In focus of this paper are open issues and challenges considered from the technological perspective. Just for clarification, we put in light different visions that stand behind this paradigm in order to facilitate a better understanding of the IoT's features. Furthermore, this exhaustive survey provides insights into the state-of-the-art of IoT enabling and emerging technologies. The most relevant among them are addressed with some details. The main scope is to deliver a comprehensive overview of open issues and challenges to be tackled by future research. We provide some insights into specific emerging ideas in order to facilitate future research. Also, this paper brings order in the existing literature by classifying contributions according to different research topics.