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Review Article

Internet of Things: A Comprehensive Review of Enabling Technologies, Architecture, and Challenges

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ABSTRACT

Internet of Things (IoT) has become a continuously growing concept with the advancements of ubiquitous computing, wireless sensor networks, and machine-to-machine (M2M) communication. IoT connects heterogeneous physical devices and enables communication among them over the Internet via uniquely addressable identifiers. This paper delivers an overview of IoT in the context of the architecture and related technologies. However, IoT does not adhere to a universal architecture. Hence, it describes widely accepted architectural designs, further elaborated with the corresponding communication protocols and standards. Moreover, highly prevalent protocols and standards are summarized, so that the reader can gain an overall view of IoT. Furthermore, it describes some identified solutions and future directions towards overcoming the challenges present in the IoT paradigm. Finally, the paper concludes

with some applications of IoT, in order to realize the feasibility of IoT concept in real-world scenarios.

KEYWORDS:

Heterogeneous devices

IoT

Ubiquitous computing

Wireless sensor network

Additional information

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