

# Internet of Things (IoT): Definitions, Challenges, and Recent Research Directions

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**Abstract:** *We want to showcase the Internet of Things (IoT) idea as a whole and examine the primary challenges the IoT environment is experiencing by concentrating on the most recent research directions in this area. A new technology called the Internet of Things (IoT) intends to actualize the idea of connectedness so that anything can be accessed from anywhere at any time. It can be characterized as a connected intelligent and interoperable node in a dynamic global infrastructure network. In actuality, the IoT environment faces a variety of difficulties that materially affect their performance. These difficulties can be divided into two groups: i) Overarching issues including virtualization, connectivity, heterogeneity, and security; ii) Distinctive barriers: Examples include the wireless sensor network (WSN), radio frequency identification (RFID), and quality of service (QoS), which is viewed as a factor that is shared by both special challenges and general challenges. This paper also highlights the key IoT applications.*

**Keywords:** IoT; heterogeneity; virtualization; WSN; RFID; QoS

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