

## **The Internet of Things: A Survey of Authentication Mechanisms, and Protocols, for the Shifting Paradigm of Communicating, Entities**

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**Abstract :** Multidisciplinary application of computer science, interactive database-driven web application, the Internet of Things (IoT) represents a digital ecosystem that has pervasive technological, social, and economic, impact on the human population. It is a long-term technology, and its development is built around the connection of everyday objects, to the Internet. It is estimated that by 2020, with billions of people connected to the Internet, the number of connected devices will exceed 50 billion, and thus IoT represents a paradigm shift in in our current interconnected ecosystem, a communication shift that will unavoidably affect people, businesses, consumers, clients, employees. By nature, in order to provide a cohesive and integrated service, connected devices need to collect, aggregate, store, mine, process personal and personalized data on individuals and corporations in a variety of contexts and environments. A significant factor in this paradigm shift is the necessity for secure and appropriate transmission, processing and storage of the data. Thus, while benefits of the applications appear to be boundless, these same opportunities are bounded by concerns such as trust, privacy, security, loss of control, and related issues. This poster and presentation look at a multi-factor authentication (MFA) mechanisms that need to change from the login-password tuple to an Identity and Access Management (IAM) model, to the more cohesive to Identity Relationship Management (IRM) standard. It also compares and contrasts messaging protocols that are appropriate for the IoT ecosystem.

**Keywords :** Internet of Things (IoT), authentication, protocols, survey

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