

# Chapter 11

## IoT and Blockchain in Indian Perspective

**Dipti Chauhan**

*Department of Computer Science and Engineering, Prestige Institute of Engineering Management and Research, Indore, India*

**Jay Kumar Jain**

*Department of Information Technology, Sagar Institute of Research and Technology, Bhopal, India*

### ABSTRACT

*Internet of things (IoT) is a collection of smart equipment that creates a smart world. It has not just changed the way we interact with important devices but has also enhanced the potential of these devices. A major limitation of IoT is that it relies on centralized communication models. Traditional IoT solutions require high infrastructure and maintenance costs, which result in scalability problems. Moreover, the vulnerability of cloud servers and their failure can affect the IoT system. There is still no one platform that connects all devices. The peer-to-peer communication model instead of the standard server/client one can be the sustainable solution the IoT industry is looking for. The major challenge with the peer-to-peer networks is security. This is where the use of blockchain in IoT can help the IoT industry scale up in a sustainable way. Indeed, blockchain and IoT together can handle a portion of IoT's greatest difficulties. The main objective of this chapter is to provide an overview of IoT and Blockchain in Indian perspectives.*

DOI: 10.4018/978-1-7998-2414-5.ch011

## **INTRODUCTION**

The quick development in scaling down, gadgets and remote correspondence advances have added to remarkable advances in our society. This has brought about an expansion in the quantity of appropriate electronic gadgets for some zones, a decrease in their creation costs and a change in perspective from this present reality into the advanced world. Therefore, the manner by which we associate with one another and with the outside world has changed, utilizing current innovation to pick up a superior comprehension of the world. Díaz, M. et al. (2016), The Internet of Things (IoT) has developed as a lot of advancements from Wireless Sensors Networks (WSN) to Radio Frequency Identification (RFID) that give the capacities to detect, actuate with and communicate over the Internet.

These days, an IoT device can be an electronic device from a wearable to an equipment improvement stage and the scope of uses where it very well may be utilized incorporate numerous territories of the general public. According Rivera, J. et al. (2014), The IoT assumes a focal role in transforming flow current cities into smart cities, electrical grids into smart grids and houses into smart homes, and many more. As indicated by different research reports, the number of connected devices is predicted to reach anywhere from 20 to 50 billion by 2020 mainly due to the vast number of devices that IoT can put on the scene. Regularly, these IoT devices are constrained in register, stockpiling, and system limit, and in this manner they are more defenceless against assaults than other endpoint gadgets, for example, cell phones, tablets, or PCs.

The possibility of the internet of things (IoT) was created in parallel to Wireless Sensor Networks (WSNs). The term internet of things was contrived by Ashton, K. (2009). There is no one of a kind definition accessible for the Internet of Things that is adequate by the world network of clients. Actually, there are a wide range of gatherings including academicians, specialists, experts, trend-setters, designers and corporate individuals that have characterized the term. What the majority of the definitions share for all intents and purposes is the possibility that the principal form of the Internet was about information made by individuals, while the following adaptation is about information made by things.

The Internet of Things is a rising worldview in the IT field. The expression “Internet of Things” which is additionally without further ado understood as IoT is produced using the two well known words for example the first is “Internet” and the second is “Things”. The Internet is a worldwide arrangement of interconnected PCs that utilizes the standard Internet convention suite (TCP/IP) to serve billions of clients around the world. It is a system of systems that comprises a large number of private, open, scholastic, business, and government systems, of neighbourhood

15 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: [www.igi-global.com/chapter/iot-and-blockchain-in-indian-perspective/261887](http://www.igi-global.com/chapter/iot-and-blockchain-in-indian-perspective/261887)

## Related Content

---

### Feedback-Based Fuzzy Resource Management in IoT-Based-Cloud

Basetty Mallikarjuna (2020). *International Journal of Fog Computing* (pp. 1-21). [www.irma-international.org/article/feedback-based-fuzzy-resource-management-in-iot-based-cloud/245707](http://www.irma-international.org/article/feedback-based-fuzzy-resource-management-in-iot-based-cloud/245707)

### Multi-Layer Token Based Authentication Through Honey Password in Fog Computing

Praveen Kumar Rayani, Bharath Bhushanand Vaishali Ravindra Thakare (2018). *International Journal of Fog Computing* (pp. 50-62). [www.irma-international.org/article/multi-layer-token-based-authentication-through-honey-password-in-fog-computing/198412](http://www.irma-international.org/article/multi-layer-token-based-authentication-through-honey-password-in-fog-computing/198412)

### Data Integrity in Mobile Cloud Computing

Abhishek Majumder, Samir Nathand Avijit Das (2018). *Cloud Computing Technologies for Green Enterprises* (pp. 166-199). [www.irma-international.org/chapter/data-integrity-in-mobile-cloud-computing/189374](http://www.irma-international.org/chapter/data-integrity-in-mobile-cloud-computing/189374)

### Fog Computing Quality of Experience: Review and Open Challenges

William Tichaona Vambe (2023). *International Journal of Fog Computing* (pp. 1-16). [www.irma-international.org/article/fog-computing-quality-of-experience/317110](http://www.irma-international.org/article/fog-computing-quality-of-experience/317110)

### The Attitudes of Chinese Organizations Towards Cloud Computing: An Exploratory Study

Tomayess Issa, Yuchao Duan, Theodora Issaand Vanessa Chang (2016). *Managing Big Data in Cloud Computing Environments* (pp. 231-251). [www.irma-international.org/chapter/the-attitudes-of-chinese-organizations-towards-cloud-computing/145599](http://www.irma-international.org/chapter/the-attitudes-of-chinese-organizations-towards-cloud-computing/145599)