Chapter

Energy-efficient lightweight cryptography for IoT networks (Chapter 9)

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Abstract

Internet of Things security (IoTSec) is a challenging research area in IoT-related network technologies due to various constraints. It has been predicted that 32 million IoT devices will be deployed for various applications in the world by 2020. IoT devices are being penetrated in all kind of physical entities (such as smart home, smart industry, smart city, hospital, power grid, traffic control, and wearable devices). Nowadays, IoT devices are more personal to human lives, which sense, process, and communicate the sensitive, critical, private, and more intimate personal data from one end to another. It is now believed that considerations of IoT security robustness have become a significant part of IoT research due to the continuously increasing number of threats, vulnerabilities, and bad characters attacking IoT data and network. Cybersecurity or Information technology security (IT security) is the protection of computer systems from the damage or theft of hardware, software, or electronic data and from the disruption or misdirection of the services they provide. Information security is to ensure aspects such as data confidentiality, data integrity, authentication, and nonrepudiation by using modern cryptography. Cybersecurity is the technique of protecting computers, networks, programs, and data from unauthorized access. Network security includes activities to protect the usability, reliability, integrity, and safety of the network. The major divisions of various levels of cybersecurity are critical infrastructure security, application security, network security, cloud security, and Internet of things (IoT) security

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The Internet of Things (IoT) is a broad concept that encompasses a variety of technologies and applications. As a result, having a comprehensive understanding of the future developments and deployment of this concept in various lateral and vertical markets and following future trend projections is critical. In this way, future studies might focus on numerous issues in areas where the Internet of ... [Show full abstract]

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