A LIGHT WEIGHT SYSTEM BASED ON ELLIPTIC CURVES AND IDS TO SECURE A WIRELESS SENSOR NETWORK INTEGRATED INTO THE INTERNET OF THINGS

[1]BENFILALI MOSTEFA, [2]GAFOUR ABDELKADER

[1,2]Djillali Liabes University, Sidi Belabbes, Algeria
E-mail: mostefa_benf_2006@yahoo.fr

Abstract - "Internet of Things" (IoT) is a global network of interconnected objects using an Internet connection, accordingto an IPV6 addressing system based on standard communication protocols. Each object belongs to the (IoT) must beIdentified by a unique IP address, including computers, Wireless Sensor Networks(WSN), RFID tags or tablets or mobilephones, will be able to connect to the network dynamically, collaborate and cooperate effectively to accomplish differenttasks. WSN consists of thousands of nodes, low-cost sensors and have limited resources, this promising technology canmeasure the physical parameters of the environment, to collect real-time information and transmit them to a central control.These sensor networks suffer from some strong constraints due to resource limitations such as the energy reserve rate, lowstorage capacity, computation and bandwidth. The inherent vulnerability of sensor networks, which are generally more proneto physical security threats, their integrations into the internet that will introduce new security challenges, represents bynumerous attacks, either external attacks or internal attacks. Therefore, it is necessary to use effective mechanisms to protectthe privacy, this type of networks against these attacks. For this reason, the purpose of this paper is to study the differenttypes of attacks against wireless sensor networks, which are external or internal attacks and to propose an intelligent andlightweight security system to secure wireless sensor networks in the context of the Internet of Things.

Keywords - Internet of Things, Wireless Sensor Networks, Vulnerability, Attacks, Privacy, Lightweight Security.