Securing the Internet of Things

Mots clés : Array

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Résumé du projet de recherche (Langue 1)

IoT devices may become the “weakest link” for breaking into a secure IT infrastructure, or for leaking sensitive information about users and their behaviors. Hence, IoT devices are becoming attractive attack targets as they can be used as bots to launch DDoS or spam, or smart IoT meters can be hacked to lower utility bills. There is also a dire need for holistic security mechanism that considers the interaction between billions of objects with each other and with other entities such as human beings. The objectives of this CIFRE PhD study are as follows: 1. Detect and evaluate software attacks while considering the context, the deployment of IoT devices, and their constraints. 2. Propose new secure and privacy-aware solutions to detect these attacks. The goal is to protect the information and the service provisioning of all relevant actors, and then limit the number of incidents that will affect the IoT network. 3. Propose new solutions to ensure trust between heterogeneous entities in IoT environments, and also guarantee that IoT services like IFTTT are not compromised.