

Abstrak

Forensik *Device Level* Pada Perangkat *Internet of Things* Berbasis *Embedded System*

Perangkat *Internet of Things* (IoT) merupakan perangkat cerdas yang memiliki interkoneksi dengan jaringan internet global. Investigasi kasus yang menyangkut perangkat IoT akan menjadi tantangan tersendiri bagi investigator forensik. Keberagaman jenis perangkat dan teknologi akan memunculkan tantangan baru bagi investigator forensik. Dalam penelitian ini dititikberatkan forensik di level internal *device* perangkat IoT. Belum banyak bahkan belum penulis temukan penelitian sejenis yang fokus dalam analisis forensik perangkat IoT pada level *device*. Penelitian yang sudah dilakukan sebelumnya lebih banyak pada level jaringan dan level *cloud server* perangkat IoT. Pada penelitian ini dibangun *environment* perangkat IoT berupa *prototype smart home* sebagai media penelitian dan kajian tentang forensik level *device*. Pada penelitian ini digunakan analisis model forensik yang meliputi *collection*, *examination*, *analysis*, dan *reporting* pada investigasi forensik dalam menemukan bukti digital. Penelitian ini berhasil mengungkap benar-benar ada serangan berupa injeksi *malware* terhadap perangkat IoT yang memiliki sistem operasi Raspbian, Fedberry dan Ubuntu Mate. Pengungkapan fakta kasus mengalami kesulitan pada perangkat IoT yang memiliki sistem operasi Kali Linux. Ditemukan 1 IP Address komputer penyerang yang diduga kuat menanamkan *malware* dan mengganggu sistem kerja perangkat IoT.

Kata kunci

digital forensic, iot device, device level forensic, iot forensic, embedded system, internet of things

Abstract

Device Level Forensic on Internet of Things Devices Embedded Based System

The Internet of Things (IoT) is an smart device that has interconnection with global internet networks. Investigating cases involving IoT devices will be a challenge for forensic investigators. The diversity of types of equipment and technology will create new challenges for forensic investigators. In this study focused on forensics at the IoT device's internal device level. there have not been many similar research that focuses on forensic analysis of IoT devices at the device level. Previous research has been done more at the network level and cloud level of IoT Device's. This study an IoT environment was built in the form of a smart home prototype as a object for research and studies on forensic level devices. This study, using forensic model analysis which includes collection, examination, analysis, and reporting in finding digital evidence. This study successfully revealed that there was really an attack in the form of malware injection against IoT devices that have Raspbian, Fedberry and Ubuntu Mate operating systems. Disclosure of the fact that the case has difficulties with IoT devices that have the Kali Linux operating system. Found 1 IP Address of an attacker's computer that is allegedly strongly infusing malware and interfering with the work system of IoT devices.

Keywords

digital forensic, iot device, device level forensic, iot forensic, embedded system, internet of things