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An Analysis of Security Systems for Electronic Information for Establishing Secure Internet of Things Environments : Focusing on Research Trends in the Security Field in South Korea

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Abstract

In the Internet of Things (IoT) era, a variety of devices that accumulate a range of data and electronic information are connected to the internet. This information is intelligently processed to create new services. As a result, the range of security risks is expanded, and the risk of compromise of electronic information is increasing. To combat this risk, research and investments in electronic information security technology is steadily increasing, and various security systems are being steadily developed. However, since electronic information security technology suitable for the IoT environment is not classified, many security systems perform redundant functions. The use of redundant security systems not only wastes costs in terms of security management, but also inefficiently performs security operations.

Keywords : Electronic Information, Classification of Security Systems, Information Security, Internet of Things, Meta-analysis

1. Introduction

With the development of information and communication technology, various industries, such as the manufacturing and service sectors, have merged with the ICT sector. The industrial environment has changed as core assets have become informational, and all kinds of devices are connected to the internet. In the Internet of Things (IoT) era, a wide range of objects can be connected to the internet. These devices accumulate data in the form of electronic information, and intelligently process this, thus creating new services. Accordingly, the range of security risks is enhanced, and the risk of loss of electronic information is increasing.

Compromise of electronic information, accidents caused by external attacks such as hacking and viruses exploiting the security risks of the IoT environment, and malicious insider threats are increasing. In order to stabilize the growth engine of the industry, it is necessary to establish a secure environment in which electronic information are safely protected. To achieve this, policy budgets and projects related to the information security of national institutions are rising annually, as research and investment into security technologies for enterprises increases.

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