Accepted Manuscript

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

Seungwan Hong, Sangho Park, Lee Won Park, Minseo Jeon, Hangbae Chang

PII: S0167-739X(17)30856-7
DOI: https://doi.org/10.1016/j.future.2017.10.019
Reference: FUTURE 3758

To appear in: Future Generation Computer Systems

Received date: 1 May 2017
Revised date: 9 September 2017
Accepted date: 12 October 2017


This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.
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

Seungwan Hong¹, Sangho Park², Lee Won Park³, Minseo Jeon⁴, Hangbae Chang⁵,*

¹HYOSUNG ITX, Korea
²,³Dept. of Security Convergence, Graduate School, Chung-Ang University, Korea
⁴Dept. of Industrial Convergence Security, Graduate School, Chung-Ang University, Korea
⁵Dept. of Industrial Security, College of Business and Economics, Chung-Ang University, Korea

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.

* Corresponding author
E-mail addresses: hbchang@cau.ac.kr (Hangbae Chang)
دریافت فوری متن کامل مقاله

امکان دانلود نسخه تمام متن مقالات انگلیسی
امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات