Abstract

In recent years networks have become a very popular research topic. By providing communications in the absence of a fixed infra-structure Networks are an attractive technology for many applications such as res-cue operations, tactical operations, environmental monitoring, conferences, and the like. However, this flexibility introduces new security risks. Since prevention techniques are never enough, intrusion detection systems (IDSs), which monitor system activities and detect intrusions, are generally used to complement other security
mechanisms. Intrusion detection for Networks is a complex and difficult task mainly due to the dynamic nature of Networks, their highly constrained nodes, and the lack of central monitoring points. Conventional IDSs are not easily applied to them. New approaches need to be developed or else existing approaches need to be adapted for Networks. This chapter outlines issues of intrusion detection for Networks and reviews the main solutions proposed in the literature. The growing number of instances of breaches in information security in the last few years has created a compelling case for efforts towards secure electronic systems. Embedded systems, which will be ubiquitously used to capture, store, manipulate, and access data of a sensitive nature, pose several unique and interesting security challenges. However, security is often mis-construed by embedded system designers as the addition of features, such as specific cryptographic algorithms and security protocols, to the system. In reality, it is an entirely new metric that designers should consider throughout the design process, along with other metrics such as cost, performance, and power. This paper is intended to introduce HDA (High level Description Algorithm) algorithm in embedded system designers and design tool developers to the challenges involved in designing secure embedded systems. We attempt to provide a unified view of embedded system security by first analyzing the typical functional security requirements for embedded systems from an end-user perspective. Intrusion is any set of actions that attempt to compromise the integrity, confidentiality, or availability of a resource and an intrusion detection system (IDS) is a system for the detection of such intrusions. There are three main components of an IDS: data collection, detection, and response.

References

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Index Terms

Computer Science Wireless Communications

Keywords

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Trusted Computing