Handbook on Securing Cyber-Physical Critical Infrastructure

By Sajal K Das, Krishna Kant, Nan Zhang

Handbook on Securing Cyber-Physical Critical Infrastructure By Sajal K Das, Krishna Kant, Nan Zhang

The worldwide reach of the Internet allows malicious cyber criminals to coordinate and launch attacks on both cyber and cyber-physical infrastructure from anywhere in the world. This purpose of this handbook is to introduce the theoretical foundations and practical solution techniques for securing critical cyber and physical infrastructures as well as their underlying computing and communication architectures and systems. Examples of such infrastructures include utility networks (e.g., electrical power grids), ground transportation systems (automotives, roads, bridges and tunnels), airports and air traffic control systems, wired and wireless communication and sensor networks, systems for storing and distributing water and food supplies, medical and healthcare delivery systems, as well as financial, banking and commercial transaction assets. The handbook focus mostly on the scientific foundations and engineering techniques – while also addressing the proper integration of policies and access control mechanisms, for example, how human-developed policies can be properly enforced by an automated system.

- Addresses the technical challenges facing design of secure infrastructures by providing examples of problems and solutions from a wide variety of internal and external attack scenarios
- Includes contributions from leading researchers and practitioners in relevant application areas such as smart power grid, intelligent transportation systems, healthcare industry and so on
- Loaded with examples of real world problems and pathways to solutions utilizing specific tools and techniques described in detail throughout

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Review

"This impressive collection presents different viewpoints on the security of cyber-physical infrastructure. With more than 40 different contributors and 30 chapters organized in eight parts, the authors provide a unique introduction to the current state of the art in this field. The recent rise in both security awareness and the criticality of cyber-physical systems justifies the publishing of such a comprehensive book." **-- ComputingReviews.com, March 2013**

About the Author
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