Smart Grid Security: Innovative Solutions for a Modernized Grid

Von Syngress
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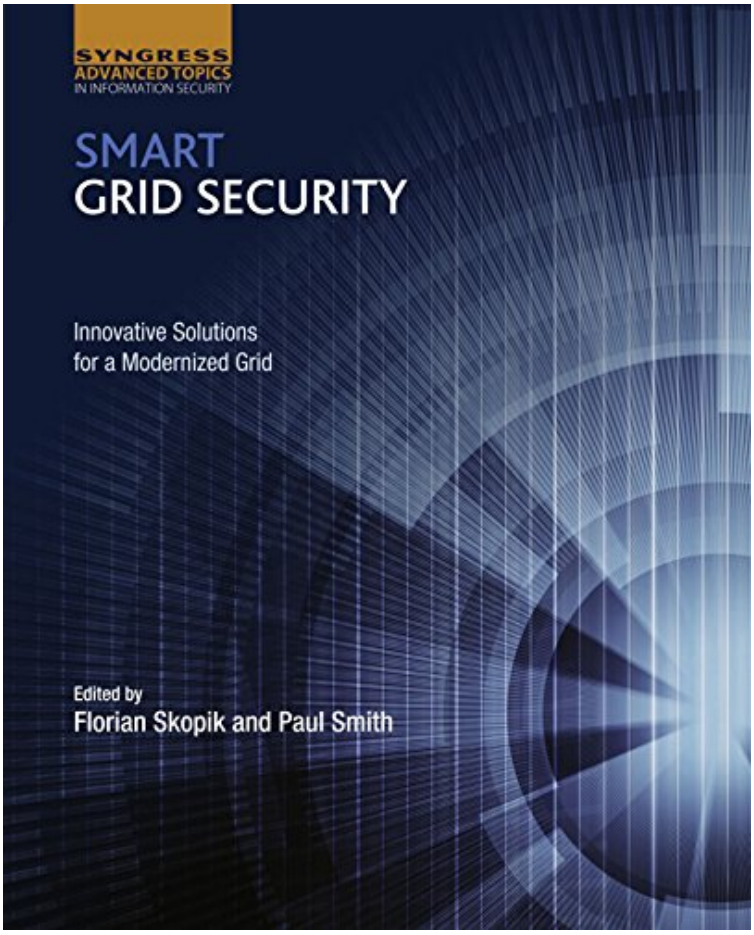

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Von Syngress : Smart Grid Security: Innovative Solutions for a Modernized Grid before purchasing it in order to gage whether or not it would be worth my time, and all praised Smart Grid Security: Innovative Solutions for a Modernized Grid:

KundenrezensionenHilfreichste Kundenrezensionen0 von 0 Kunden fanden die folgende Rezension hilfreich. An engineer's viewVon KundeAs an electrical engineer with loose bonds to power distribution but with a stronger focus on security in automation environments i was interested how far the research in the new hot topic of smart grid security progressed."Smart Grid Security" is a compilation of several project results originatedin the EU FP7 project SPARKS.The work is divided into parts regarding the following topics:-current state of smart grids-common cyber attacks-secure development life cycle-expected threats to smart grids-resilience against physical attacks-design of protocols and networking in smarts grids with security in mind-operation of smart grids and infrastructure used -outlookIn short: the expected smart grid revolution is covered in detail. The descriptions include evolving standards and used communication protocols with examplary introductions. Not only european developments are taken into

considerations, but also anglo-american trends.But as the SPARKS project was based in cyber-security environment the elaboration has its focus in this world. It is assumed that the integration of smart generation and consumption with its described technologies will be suddenly realized. But the reality will be, that traditional control architectures and protocols will be around for a long time parallel to the smart grid. A hot topic in future will be how to get them secured(but this was not the focus of the book).Who will benefit from this work? Engineers and managers who will have to decide on strategic transformations or developments of their grids, as well as researchers trying to understand how IT-related security approaches scale to the smart grid world.

KurzbeschreibungThe Smart Grid security ecosystem is complex and multi-disciplinary, and relatively under-researched compared to the traditional information and network security disciplines. While the Smart Grid has provided increased efficiencies in monitoring power usage, directing power supplies to serve peak power needs and improving efficiency of power delivery, the Smart Grid has also opened the way for information security breaches and other types of security breaches. Potential threats range from meter manipulation to directed, high-impact attacks on critical infrastructure that could bring down regional or national power grids. It is essential that security measures are put in place to ensure that the Smart Grid does not succumb to these threats and to safeguard this critical infrastructure at all times. Dr. Florian Skopik is one of the leading researchers in Smart Grid security, having organized and led research consortia and panel discussions in this field. Smart Grid Security will provide the first truly holistic view of leading edge Smart Grid security research. This book does not focus on vendor-specific solutions, instead providing a complete presentation of forward-looking research in all areas of Smart Grid security. The book will enable practitioners to learn about upcoming trends, scientists to share new directions in research, and government and industry decision-makers to prepare for major strategic decisions regarding implementation of Smart Grid technology.Presents the most current and leading edge research on Smart Grid security from a holistic standpoint, featuring a panel of top experts in the field.Includes coverage of risk management, operational security, and secure development of the Smart Grid.Covers key technical topics, including threat types and attack vectors, threat case studies, smart metering, smart home, e- mobility, smart buildings, DERs, demand response management, distribution grid operators, transmission grid operators, virtual power plants, resilient architectures, communications protocols and encryption, as well as physical security.KurzbeschreibungThe Smart Grid security ecosystem is complex and multi-disciplinary, and relatively under-researched compared to the traditional information and network security disciplines. While the Smart Grid has provided increased efficiencies in monitoring power usage, directing power supplies to serve peak power needs and improving efficiency of power delivery, the Smart Grid has also opened the way for information security breaches and other types of security breaches. Potential threats range from meter manipulation to directed, high-impact attacks on critical infrastructure that could bring down regional or national power grids. It is essential that security measures are put in place to ensure that the Smart Grid does not succumb to these threats and to safeguard this critical infrastructure at all times. Dr. Florian Skopik is one of the leading researchers in Smart Grid security, having organized and led research consortia and panel discussions in this field. Smart Grid Security will provide the first truly holistic view of leading edge Smart Grid security research. This book does not focus on vendor-specific solutions, instead providing a complete presentation of forward-looking research in all areas of Smart Grid security. The book will enable practitioners to learn about upcoming trends, scientists to share new directions in research, and government and industry decision-makers to prepare for major strategic decisions regarding implementation of Smart Grid technology.Presents the most current and leading edge research on Smart Grid security from a holistic standpoint, featuring a panel of top experts in the field.Includes coverage of risk management, operational security, and secure development of the Smart Grid.Covers key technical topics, including threat types and attack vectors, threat case studies, smart metering, smart home, e- mobility, smart buildings, DERs, demand response management, distribution grid operators, transmission grid operators, virtual power plants, resilient architectures, communications protocols and encryption, as well as physical security.ber den Autor und weitere MitwirkendeScientist and Senior Project Manager, ICT Security Research Team at the Austrian Institute of Technology