Smart grid communications and networking Jamaica

Book contents. Frontmatter; Contents; List of contributors; Preface; Part I Communication architectures and models for smart grid; Part II Physical data communications, access, detection, and estimation techniques for smart grid; Part III Smart grid and wide-area networks; Part IV Sensor and actuator networks for smart grid; Part V Security in smart grid communications ...

Main communication interfaces of the Smart Grid network were reviewed, control mechanisms for the physical parts of the wind generator system such as automatic voltage regulator, and automatic ...

JPS, which serves more than 600,000 customers, will extend its existing Itron Gen 5 network to be able to support up to 670,000 electric meters, which will help the utility improve customer ...

2.1.1. Smart Grid Domains. SGs are complex systems, interfacing the power grid with communication technologies by deploying a large number of interconnected components for measuring, controlling, and monitoring.

Part i Communication architectures and models for smart grid l 1 Communication networks in smart grid: an architectural view 3 1.1 Introduction 3 1.2 Smart grid conceptual model 5 1.3 Smart grid communication infrastructures 6 1.3.1 Home-area networks (HANs) 8 1.3.2 Neighbourhood-area networks (NANs) 8 1.3.3 Wide-area networks (WANs) 8

Communications and access technologies for smart grid Sara Bavarian and Lutz Lampe; 6. Machine-to-machine communications in smart grid Jesus Alonso-Zarate, Javier Matamoros, David Gregoratti and Mischa Dohler; 7. ... 13. Potential methods for sensor and actuator networking for smart grid Victor O. K. Li and Guang-Hua Yang; 14. Implementation ...

infrastructure, domains, architecture and applications. Section 3 presents smart grid communication technologies and network structures. Section 4 addresses challenges of smart grid communications, and privacy and security of smart grid communication. The organization of this paper is summarized in Figure 1. Figure 1. The structure of the paper 2.

2. Introduction o Communications is the enabling technology for Power System o No single communication technology as being best suited for all power system needs. o The smart grid is a new generation of standard power distribution grid. The communication infrastructure is critical for the successful operation of the modern smart grids.

DOI: 10.1016/B978-0-12-802122-4.00005-5 Corpus ID: 111345073; Secure Communications in Smart Grid:

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Networking and Protocols @inproceedings{Mclaughlin2015SecureCI, title={Secure Communications in Smart Grid: Networking and Protocols}, author={Kieran Mclaughlin and Ivo Friedberg and Boojoong Kang and Peter Maynard and Sakir Sezer and Gavin McWilliams}, ...

JAMAICA PUBLIC SERVICE COMPANY LIMITED (JPS) relies on the next-generation wireless technology of Cambium Networks, a leading global provider of wireless networking solutions, ...

Smart grids are electrical networks that can intelligently integrate the behaviour and actions of all users connected to it, in order to efficiently deliver a sustainable, cost ...

3. INTRODUCTION o Many countries and electricity markets are looking at Smart Grid as advanced solutions in delivering mix of enhanced values ranging from higher security, reliability and power quality, lower cost of ...

The project expanded the smart grid communication network, enhanced systems communications and established standards for smart grid applications. Through the BIP project, JPS set a goal ...

A smart grid provides a bidirectional flow of electricity and information whilst ensuring well-balanced electricity supply and demand. The key enabler for the smart grid is its robust communication infrastructure. Choosing the best communication technology for the smart grid is crucial as it involves a mixture of critical and non-critical traffic. This study provides a ...

The Jamaica Public Service Company (JPS) will be investing more than US$100 million towards the modernisation of the nation"s electricity grid, within the next five years. This ...

As shown in Figure 5.2, until the 1990s control system communications were generally secure from cyber-attacks because of proprietary hardware, software, communications protocols and, importantly, their isolation from the outside world.The additional interoperability and connectivity of modern control systems, including those in the Smart Grid, presents many ...

6 Machine-to-machine communications in smart grid; 7 Bad-data detection in smart grid: a distributed approach; 8 Distributed state estimation: a learning-based framework; Part III Smart grid and wide-area networks; Part IV Sensor and actuator networks for smart grid; Part V Security in smart grid communications and networking; Part VI Field ...

Part V Security in smart grid communications and networking; Part VI Field trials and deployments; Index; Get access. Share. Cite. Summary. Introduction. The existing electrical grid needs to be smarter in order to provide an economical, reliable, and sustainable supply of electricity [1]. Although the current electrical grid has served well in ...

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The role of communication systems in smart grids: Architectures, technical solutions and research challenges. Emilio Ancillotti, ... Marco Conti, in Computer Communications, 2013. Abstract. The purpose of this survey is to present a critical overview of smart grid concepts, with a special focus on the role that communication, networking and middleware technologies will have in the ...

The goal of the program is to create an intelligent grid to enhance the reliability of the transmission and distribution network and to improve the quality of the service delivered to their customers. JPS is a vertically integrated electric utility ...

One essential feature of the smart grid is the information flow over the high-speed, reliable and secure data communication network in order to manage the complex power systems effectively and ...

Currently, the Smart Grid faces challenges in terms of reliability and security in both wired and wireless communication environments. The most important challenge is a lack of communication network infrastructure, which is a key factor in supporting the grid monitoring system. In the absence of an

sensing, communication, and networking technologies for the smart grid, a detailed exposition on the issues such as distributed energy resource (DER) management, demand-side management (DSM), architecture and protocol for power management in the smart grid are out of the scope of this article. 2. APPLICATIONS OF DATA SENSING IN THE SMART GRID

Objective: To accelerate the development of scalable, reliable, secure, and interoperable communications and standards for smart grid applications; and to enable informed decision making by smart grid operators by developing measurement science-based guidelines and tools. What is the new technical idea? Traditionally, technology decisions have been ...

Grid operations in smart grid have proven to be more efficient and more secure because of the communication infrastructures and modern control. Smart Grid Communication Infrastructures examines and summarizes the recent advances in smart grid communications, big data analytics and network security. The authors - noted experts in the field ...