IEEE Transactions on Industrial Informatics

CALL FOR PAPERS

for Special Section on

Configuration Security for Industrial Automation and Control Systems

Theme: The industrial automation and control systems include supervisory control and data acquisition (SCADA) systems, distributed control systems (DCS), and other control system configurations such as Programmable Logic Controllers (PLC), which are typically used in industries such as electric, water and wastewater, oil and natural gas, transportation, chemical, pharmaceutical, food and beverage, and discrete manufacturing (for example, automotive, aerospace, and durable goods). These systems are highly interconnected and mutually dependent systems which support a diverse set of critical infrastructure management services using a wide variety of IoT devices for sensing and actuation. The industrial automation and control services operate by defining a set of rules that specify appropriate control actions for each important set of events. The rules involve events based on the real-time data reported by the IoT devices. The actions initiated by the service controllers could occasionally lead to conflicts or undesirable, unsafe outcomes both due to inadvertent misconfiguration, attacks on the configuration state, and poorly understood dependencies. From consumer IoT devices developed with minimal built-in security, which are often co-opted by malware to launch large distributed denial of service attacks on internet infrastructure, to remote attacks on industrial control devices, these newly connected, composed systems provide a vast attack surface. To this end, more secure configurations should be developed to address system vulnerabilities and minimize attack surfaces while maintaining expected functionality and performance.

The aim of this special section is to foster novel and multidisciplinary approaches that improve configuration security in industrial automation and control systems by taking into consideration various challenges faced by industrial applications.

This special section will focus on (but not limited to) the following topics:

- Methods and models for industrial security solutions
- Optimization techniques for industrial security solutions
- Real-time control and optimization
- Edge computing automation techniques for industrial automation and control solutions
- Security driven configuration management
- Efficient computing, communication and security architectures
- Energy-aware Internet of Things and control solutions
- Formal specification and verification of industrial Internet of Things systems
- Security and privacy for resource-constrained devices
- Distributed, networked and collaborative systems
- Big data and real-time data processing
- Modelling and analysis of physical components and environment
- Improving the reliability using data analytics techniques
- Cyber threat intelligence in industrial automation and control systems
- Theories and models for detection and analysis of advanced persistent threats
- Intelligent forensics tools, techniques and procedures
- Emerging trends and computing paradigms for configuration security

Manuscript Preparation and Submission

Follow the guidelines in “Information for Authors” in the IEEE Transaction on Industrial Informatics http://www.ieee-ies.org/pubs/transactions-on-industrial-informatics . Please submit your manuscript in electronic form through Manuscript Central web site: https://mc.manuscriptcentral.com/tii . On the submitting page #1 in popup menu of manuscript type, select: SS on **Configuration Security for Industrial Automation and Control Systems**

Submissions to this Special Section must represent original material that has been neither submitted to, nor published in, any other journal. Regular manuscript length is 8 pages.

Note: The recommended papers for the section are subject to final approval by the Editor-in-Chief. Some papers may be published outside the special section, at the EIC discretion.

Timetable:	Deadline for manuscript submissions	**May 10, 2020**
	Expected publication date (tentative)	November 2020

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