

Annals of Telecommunications



Call for papers
Special Issue on

Security and Privacy for Cross-Blockchains

Lead Guest Editor

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Topics of interest for this special issue include but are not limited to:

- Secure and privacy-aware system architectures for cross-blockchains
- Robust interoperability for cross-blockchains
- Secure inter-blockchain communication
- Authentication, authorization and accounting for cross-blockchains
- Threat models and attack methodologies for cross-blockchains
- Security applications of cross-blockchains
- Trust management and risk assessment for cross-blockchains
- Data analysis oriented solutions for security and privacy enhancement of cross-blockchains
- Cryptography protocols and algorithms for cross-blockchains
- State-of-the-art reviews on security and privacy for cross-blockchains

Blockchain, which enables the immutability of the transactions without trusted intermediaries, has been promptly identified as a promising underlying system architecture technology of a wide variety of new applications for industry and government use. Currently, a number of blockchain platforms, such as Ethereum, Quorum, Hyperledger Fabric, IBM Blockchain, Hydrachain, IOTA, Multichain, and BigChainDB, are available on the market. By considering specific business needs or organization purposes, permissioned blockchains based on these platforms are widely deployed and cooperatively operated to address those scenarios where transactions need to be privately processed and executed within a list of pre-defined

participants. Novel cross-permissioned blockchains applications are realized in several fields, such as Internet of Things, medical management and healthcare, and trusted cross-financial Institutions transaction exchange and verification. With the benefits brought from the cross-blockchains applications, it is indispensable to consider the security and privacy in this kind of highly heterogeneous and inter-connected system. So far, hundreds of security solutions have recently been put forward for single blockchain platform scenarios. Most of the existing solutions do not consider the cross-blockchains issues, i.e. heterogeneity, interoperability and scalability, and are thus not suitable to cross-blockchains scenarios.

The objective of the special issue is to compile recent research efforts dedicated to study the security and privacy of rapidly increasing cross-blockchains applications. The special issue solicits high quality and unpublished work on recent advances in new methodologies empowering traditional security solutions for cross-blockchains architecture, and theories and technologies proposed to defend cross-blockchains applications against adversarial or malicious attacks.

Papers must describe original research that advances state-of-the-art research and must not be simultaneously submitted to a journal or a conference with proceedings. Papers must be written in excellent English and should not exceed 20 pages. Previously published or accepted conference papers must contain at least 40% new material to be considered for the special issue. A covering letter to the Guest editors clearly describing the extensions made must accompany these types of submissions.

All submissions must be made using the instructions available at: <http://annalsoftelecommunications.wp.mines-telecom.fr/how-to-publish/>

The authors can directly submit their papers at: <https://www.editorialmanager.com/ante/> and must select the item "CfP: Security and Privacy for Cross-Blockchains" when answering the submission questionnaire (additional information stage)

Proposed schedule

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|--------------------------------|-------------------------|
| • Manuscript submission | September-December 2020 |
| • Online with DOI | As soon as accepted |
| • Printed issue | 2021 |



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