

Special Issue on Network Protocols, Schemes, and Mechanisms for Internet of Things Performance Enhancement: Features, Open Challenges, and Trends



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DESCRIPTION

Internet of things (IoT) presence in the existence world is huge. It has a wide variety of applications like wearables, smart cities, industrial internet, connected car, connected health, smart supply chain, smart farming, connected healthcare to name a few. According to Gartner prediction the number of IoT connected devices will be 20 billion which is more than human population. The amount of data generated every single minute is enormous and a clear overhead to consider. Creating the connectivity between these smart devices for a real time decision making is cumbersome. The IoT protocols are the basic need of communication. There were wide variety of protocols are in presence based on infrastructure, identification, routing, discovery, data protocols, device management, semantic and multilayer frameworks.

To build a formidable IoT system to provide a ubiquitous service is the definition and is an arduous task. It brings out various limitations and challenges like mobility, scalability, compatibility, interoperability, security. For example, interoperability for all sensors and physical objects depends on the standardization IoT. The performance of IoT is measured through how these IoT protocols are allowing as a platform for the IoT applications to achieve. The communication of IoT is based on various communication protocols that are needed for the connectivity to the smart devices like sensors. Where the energy constraint is a critical element to deal with. Mobility protocols are the other set of protocols used for mobility management. The challenges it faces are like mobility, power supply, processing capacity. IoT network optimization helps the performance to be better on many directions like reliability, scalability, congestion control, routing heterogeneity, quality of service etc. The protocol enhancement is expected to reduce lot of overhead. Performance testing of IoT faces impediment because of its geographical location presence which connects to various servers to send and receive data, load conditions and real-time decision making.

The open challenges of IoT communication were plenty like data privacy, trust, connectivity for smart devices, security and etc.

The topics of this special issue include, but are not limited to:

- Queuing and network information theoretic analysis for IoT based communication protocols
- Protocol architectures for improved IoT performance
- Addressing schemes for IoT protocols
- Resource management schemes/methods for IoT communication
- Analytical and probabilistic modelling of communication protocols for IoT
- Congestion control mechanisms for IoT paradigm

- Network optimizations in IoT
- Routing model/algorithms for IoT communication protocols
- Security aspects on IoT system
- Standardization of IoT protocols
- Modelling the performance of IoT networks
- Performance analysis of IoT on various applications
- Validating IoT data integrity for IoT paradigm
- Simulating real world workload models
- Trust based IoT protocols for communication

The authors are requested to submit their full research papers complying with the general scope of the journal. The submitted papers will undergo peer review process before they can be accepted. Notification of acceptance will be communicated as we progress with the review process.

HOW TO SUBMIT

Before submission authors should carefully read the Instruction for Authors:

www.degruyter.com/view/supplement/s22991093_Instruction_for_Authors.pdf

Manuscripts can be written in TeX, LaTeX (strongly recommended) - the journal's [LATEX template](#). Please note that we do not accept papers in Plain TEX format. Text files can be also submitted as standard DOCUMENT (.DOC) which is acceptable if the submission in LATEX is not possible. **For an initial submission, the authors are strongly advised to upload their entire manuscript, including tables and figures, as a single PDF file.**

All submissions to the Special Issue must be made electronically via online submission system Editorial Manager:

www.editorialmanager.com/opencs/

All manuscripts will undergo the standard peer-review procedure (single blind, at least two independent reviews). When entering your submission via online submission system please choose the article type "*SI on IoT Performance Enhancement*".

Submissions to the Special Issue are now open !!!

Individual papers will be reviewed and published online on an ongoing basis.

Important dates (approx.):

Deadline for submissions: September 30, 2019

1st round of acceptance notification: November 30, 2019

Submission of revised papers: December 31, 2019

2nd round of acceptance notification: January 31, 2020

Publication online: March 2020

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- **NO submission and publication FEES**
- **indexation by Clarivate Analytics - Web of Science (ESCI) and Elsevier - SCOPUS**
- fair and constructive peer review provided by experts in the field
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- fast online publication upon completing the publishing process
- better visibility due to **Open Access**
- **long-term preservation** of the content (articles archived in Portico)
- extensive post-publication promotion for selected papers

We are looking forward to your submission !!!

In case of any question please contact **Prof. Ganesh Gopal** (lead Guest Editor, dganeshgopal@gmail.com) or **Dr. Justyna Żuk** (Managing Editor of [Open Computer Science](#), Justyna.Zuk@degruyter.com).