



CALL FOR PAPERS
IEEE Transactions on Big Data
Special Issue on

Trustworthiness in Big Data and Cloud Computing Systems



The rapid advancement of digital sensors, computers, networks, and smart devices with their extensive use is leading to the integration of a significant amount of diversified data that results in emerging research on Big Data. Cloud computing means storing, computing, and accessing data and programs over the Internet. The growth of cloud computing and cloud data stores have been a precursor and facilitator to the emergence of Big Data. Thus, Big Data and Cloud systems are considered complimentary to each other.

Since Big Data are often in unstructured or semi-structured forms that are being generated from various sources, *trustworthiness* in data collection, integration, computing, decision-making, and data management becomes a great concern. For example, can we trust current Big Data storage and protection systems or can the use of Big Data analytic enhance security and privacy of the whole system? On the other hand, *trustworthiness* is also one of the most concerning issues in Cloud Computing environments in terms of fault tolerance, data loss recovery, data privacy/security/safety, and data protection, due to its open environment with very limited end user-side controls. Currently, many new applications are being developed explicitly for cloud system deployment, while many traditional applications will eventually evolve to cloud. The end user-side wants these cloud-based services to be at least as *trustworthy* and *available* as traditional offerings. To meet these expectations, cloud service providers and cloud consumers need to gain a solid understanding of the unique challenges of cloud computing and learn how to mitigate risks.

While information society, commercial and scientific companies, and industries share the need for massive throughput, *trustworthiness* of services will become a big concern. However, *trustworthiness* in both Big Data and Cloud Computing systems has received less attention from researchers and practitioners. The aim of this special issue is to solicit both original research that discusses the *trustworthiness* issues, *trustworthy* platforms, *trustworthy* frameworks, and design methodologies for Big Data and Cloud Computing systems.

Therefore, any topic related to *trustworthiness* aspects for Big Data and Cloud Computing systems will be considered. The scope and interests for the special issue include but are not limited to the following topics:

- Architectures, models, and designs for trustworthiness
- Anomaly detection and protection, identity management and intrusion detection techniques
- Trustworthiness issues for SaaS/PaaS/IaaS
- Security, privacy, trust, and risk simulations for networking big data and big data in the cloud
- Availability, fault-tolerance, real-time, recovery and auditing, and data backup issues
- Fundamentals of data forensics in big data and cloud computing environments
- Trustworthy software tools and techniques
- Trustworthiness in big data and cloud computing applications
- Trustworthiness measurement, modeling, evaluation, and tools

Paper Evaluation Criteria

As a refereed publication venue, all papers submitted to TBD must be refereed and are not guaranteed acceptance. The majority of papers that finally appear in the issue will likely be the result of the special issue' solicitation. Papers for the TBD must be of high quality. To specify this, the following five criteria would be considered: relevance, technical novelty, new contributions, sufficient evaluation, and adequate presentation. Few papers excel in all five, but a substandard level in any is sufficient grounds for rejection.

The guest editor team will conduct a two-step review process. Each paper will go through a first-round pass step, which is a quick scan of the paper to decide whether it meets the criteria. If the paper does not seem to meet certain criteria, an early rejection would be notified. Otherwise, the paper will go through a rigorous peer-review process. Any extended work must have 50% brand "new" material and pass through the above step.

Submission Guideline

Authors should follow the TBD manuscript format described in the Information for Authors website at <http://www.computer.org/portal/web/tbd/author>. Prospective authors should submit their manuscripts in pdf format to <https://mc.manuscriptcentral.com/tbd-cs> according to the proposed timetable. To submit a paper, please read submitting page length instructions of the TBD. Authors must select "Trustworthiness in Big Data and CCS" when they reach the "Article Type" step in the submission process.

Important Dates

Manuscript submission due:	Jan 15, 2017	Feb 28, 2017
First-round pass notification:	March 28, 2017	
First round of reviews complete:	May 30, 2017	
Second round of reviews complete:	Jul 30, 2017	
Final notification:	Aug 31, 2017	
Final manuscript due:	Sept 30, 2017	
Target publication date:	2017/2018	

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