Call for Papers – IEEE Transactions on Cloud Computing

Special Section on

Demand Response Applications of Cloud Computing Technologies

The IEEE Transactions on Cloud Computing (TCC) is dedicated to the multidisciplinary field of cloud computing. It is committed to the publication of articles that present innovative research ideas, application results, and case studies in cloud computing, focusing on key technical issues related to theory, algorithms, systems, applications, and performance. This title also considers submissions on X as a Service, where X may be Infrastructure, Storage, Network, Platform, Database, Information, Security, Management, Software, Mobile Backend, or Business Process.

The use of distributed energy resources for self-generation and self-consumption along with Information and Communications Technologies (ICT) and the Internet of Things (IoT) is rapidly increasing the ability of the consumers and prosumers to actively engage with the electric energy system. Sustained consumer and prosumer engagement in Demand Response (DR) programs has been identified as a key factor in future electric energy systems, especially with a high penetration of renewable energy sources. This engagement has allowed demand-side resources to play a larger role in energy markets, whether by generating, storing or participating in DR programs through increased flexibility, towards the consumer-driven energy transition.

However, in real life, there is still a long way to go until DR solutions take off and become entirely integrated in the daily life of the consumers, thus utilizing their full potential. Stronger engagement of consumers and prosumers is needed, as well as more flexibility services for system operation, benefiting Smart Grid developments. New technological solutions are crucial to make DR implementation as automated and user-friendly as possible, without taking away the sense of control from end-users. The opportunities resulting from digitalization with advanced and secure ICT and IoT platforms should be explored, implementing a cloud-based optimization. Therefore, in this special section, we aim to publish original research papers, visionary reviews, and practical test results on the theory, applications, algorithms, and technologies, as well as case studies associated with DR applications of cloud computing technologies.

Topics of interest include but are not limited to:

- Optimization in a cloud platform for DR applications.
- Cloud-based big data management and analytics for DR applications.
- Cloud programming models and tools for DR applications.
- Cloud security and privacy for DR applications.
- Cloud interoperability and integration for DR applications.
- Business services system in the cloud for DR applications.

This special section solicits original work that is not under consideration for publication in other venues. One or two-page extended abstracts are required for the first round of reviews. Authors of selected extended abstracts will be invited to submit full papers in the second round. Authors should refer to IEEE TCC guidelines for information on content and formatting of submissions. Please submit a PDF version of the extended abstract via e-mail to catalao@fe.up.pt before the deadline. Full papers should be submitted to: https://mc.manuscriptcentral.com/tcc-cs

Important Dates

- October 1, 2020: Deadline for submission of extended abstracts (one or two pages) via e-mail.
- November 15, 2020: Decision notification for inviting full paper submissions.
- February 1, 2021: Deadline for submission of full papers via Manuscript Central.
- July 1, 2021: Notification of final decisions.
- July 15, 2021: Publication materials due.

Guest Editorial Board

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