IEEE CloudNet
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IEEE CLOUD COMPUTING

IEEE CloudNet'14
Special Session

SS9: Optimization Models for Cloud Computing

Call for Papers

Cloud Computing appears as a new computing paradigm that allows us to generate important savings in terms of time, energy and money. Cloud computing allows us to store data, applications and information in a permanent way in servers connected throughout the internet network. All these resources can be used and shared by the users according to their exact needs. Furthermore, Cloud computing brings two features for enterprise elasticity and flexibility. Elasticity in the cloud allows enterprises to scale their resources up and down and flexibility presents a large set of options for an enterprise to configure its resources such as software, memory, CPU, ...

Cloud computing contains many optimization problems as parallel machine scheduling, hardware load balancing, data center location planning with different objective functions, for example saving energies, minimizing the makespan. This Special session is focused on these optimization problems.
Topics:

- Data Centre Scheduling Optimization
- Data Centre Location, Layout and Capacity Planning Optimization
- Power Management Techniques and Optimization
- Virtualization techniques for improving efficiency
- Energy-aware software and deployment optimization
- Energy-aware strategies for scheduling and planning on distributed infrastructure
- Solutions for improved resource management on datacenters and distributed infrastructures
- Data Flow Management and Load Balancing
- Data Centre Network Management, Reliability, Optimization

Important dates

Paper Submission: July 3, 2014 (Extended)
Notification of Acceptance: August 1, 2014
Final Paper: August 15, 2014

Submit online at EDAS website »

Session organizers

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Bio: He received his Ph.D degree in 2003 in Control and Computer Science (with the best honours) from the Ecole Centrale de Lille (French "Grande Ecole") at the LAIL (LAGIS now) UMR CNRS. He obtained the HDR degree (Habilitation to supervise doctoral research) from the University of Paris-Dauphine in 2007 in Computer Science (Combinatorial Optimization). From 2003 to 2009, he was Associate Professor with the University of Technology of Troyes (UTT, France) at the ICD Laboratory of the CNRS. During the year 2007/2008 he was with the National Scientific Research Centre (CNRS, France). Since 2009, he is Full Professor at the University Paul Verlaine - Metz (which is a part of the University of Lorraine since 2012, France) in the Computer Science Department and the LCOMS Laboratory.
His scientific activity is in a transversal and interdisciplinary domain: the Operational Research. More precisely, his contributions are related to the design of exact and approximate algorithms with a guaranteed performance for the NP-hard combinatorial problems. Such problems are mainly related to the scheduling theory. These research activities are at the frontier of the Computer Science and the Applied Mathematics, and the applications are interdisciplinary and various (production, packing in electronic design, Cloud computing, Healthcare, Transportation, . . .).

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Bio: Sébastien Martin was born in 1982. He received his Masters degree in computer Science in 2007, and his Ph.D in Computer Science and Combinatorial Optimization at Université Paris-Dauphine in 2011. Since 2012, he is Associate Professor at Université de Lorraine. His research area includes: Operational Research with complexity and graph theory, and Combinatorial Optimization with Integer Linear Programming, Polyhedral Study and branch-and-cut algorithms. His fields of application are: assignment nurses to services in healthcare problem or variables to equations for solving Differential Algebraic Systems; partitioning a problem for purpose parallel frequency assignment algorithms or parallel differential algebraic solvers; Scheduling tasks on machines applied to the cloud computing problem. The aim of his researches is to propose efficient algorithms to solve real problems with exact methods.