Research Work Title

Market-oriented and energy-efficient algorithms and software systems for cloud computing

Researcher
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Country
Australia

Field
Computing Systems

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Abstract

Computing is being transformed to a model consisting of services that are delivered in a manner similar to utilities such as water, electricity, gas, and telephony. Cloud computing paradigm has turned this vision of "computing utilities" into a reality. To turn this vision of "computing utilities" into a reality, cloud computing paradigm aims to offer an infrastructure, a platform, and a software as services, which are made available as subscription-based services in a pay-as-you-go model to consumers. The CLOUDS Lab at Melbourne has pioneered and created innovative (1) architectural principles for market-oriented cloud computing, (2) energy-efficient resource provisioning and application scheduling algorithms, and (3) software technologies, such as Aneka, CloudSim, Workflow Engine, OpenStackNeat and InterCloud, supporting rapid creation of cloud applications and their execution management in a cost and energy-efficient manner in distributed cloud computing environments. These new technologies have empowered scientific, engineering, and business communities worldwide to solve challenging problems.

Biography

Prof.Rajkumar Buyya is a Redmond Barry distinguished professor and director of the cloud computing and Distributed Systems (CLOUDS) Laboratory at the University of Melbourne, Australia. He is also serving as the founding CEO of Manjrasoft, a spin-off company of the Melbourne university, commercializing its innovations in cloud computing. He has authored over 750 publications and seven text books. Prof.Buyya has been recognized as a "Web of Science Highly Cited Researcher" for four consecutive years since 2016, a fellow of IEEE, and Scopus Researcher of the Year 2017 with Excellence in Innovative Research Awards by Elsevier, and the "Best of the World", in computing systems field, by the Australian 2019 Research Review. Software technologies developed under Prof. Buyya's leadership have gained rapid acceptance and are widely in use in some countries.