Machine Flow based Energy-Power Approximation on Elastic Cloud Services

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Abstract

Cloud computing offers cloud mobile services with different elasticity application. The role of elasticity in cloud mobile services offers an effective mapping application on the cloud zone that matches with the resources that can be allocated with which it actually requires. Huge number of techniques have proposed in the past using energy-aware resource allocation that used heuristics method and offered with substantial amount of cloud services but failed to enhance the energy efficient management on elastic cloud computing environments. In addition to secure the Mobile Cloud Computing (MCC) guarantees the user privacy but failed to include a host trusted domain module for other cloud service providers. To attain an energy efficient system for the cloud mobile services, a method called Machine Flow based Energy-Power Approximation (MFEPA) is presented in this paper. The method MFEPA is executed for each elastic cloud services for efficient energy-power saving in the cloud mobile devices. Moreover with the design of MFEPA algorithm two objectives are attained. At first with the application of Multi-grid approximation technique, the energy consumption is reduced. Next, in order to reduce the power consumption for mobile cloud services, a look-ahead control is introduced. Multiple grid
(i.e.,) machines is reduced to a coarser construction, and the solution is mapped back to the inventive grid. The mapping reduces the energy during the unnecessary computing load and proves to be effective on the terminal mainframe mobile communications. The Look-ahead control in MFEPA assigns weights to all the users and decreases the power usage on the wireless interface. The power minimized up to 9.42% averagely on different experimental results and reduces the performance degradation on the elasticity of cloud applications. MFEPA method performs the experimental work on the factors such as true positive rate, energy efficiency level, and grid mapping efficacy rate.

References


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Keywords