

Scopus

EXPORT DATE:23 Dec 2015

Mansouri H.a , Badache N.b , Aliouat M.c , Pathan A.-S.K.d

A new efficient checkpointing algorithm for distributed mobile computing

(2015) Control Engineering and Applied Informatics, 17 (2), pp. 43-54.

[http://www.scopus.com/inward/record.url?eid=2-s2.0-](http://www.scopus.com/inward/record.url?eid=2-s2.0-84934272776&partnerID=40&md5=a1c2d019c621710052fc1e05878352dd)

[84934272776&partnerID=40&md5=a1c2d019c621710052fc1e05878352dd](http://www.scopus.com/inward/record.url?eid=2-s2.0-84934272776&partnerID=40&md5=a1c2d019c621710052fc1e05878352dd)

AFFILIATIONS: Department of Computer Science, Faculty of Exact Sciences, University of Bejaia, Bejaia, Algeria;

Research Center on Scientific and Technical Information CERIST, Ben-Aknoun, Algiers, Algeria;

Laboratory of Networks and Distributed Systems, Computer Science Department, University of Ferhat Abbas Sétif1, Sétif, Algeria;

Department of Computer Science, International Islamic University Malaysia, Kuala Lumpur, Malaysia

ABSTRACT: Mobile networks have been quickly adopted by many companies and individuals. However, multiple factors such as mobility and limited resources often constrain availability and thus cause instability of the wireless environment. Such instability poses serious challenge for fault tolerant distributed mobile applications. Therefore, the classical checkpointing techniques, which make the applications more failure-resistant, are not always compatible with the mobile context. In fact, it is necessary now to think about other techniques or at least adapt those to devise effective and well suited techniques for the mobile environment. Considering this issue, the contribution in this paper is a proposal of a new checkpointing algorithm suitable for mobile computing systems. This

algorithm is characterized by its efficiency and optimization in terms of incurred time-space overhead during checkpointing process and normal application running period.

AUTHOR KEYWORDS: Consistent global state; Coordinated checkpointing; Distributed mobile computing; Fault tolerance

DOCUMENT TYPE: Article

SOURCE: Scopus