



[Home](#) > [Vol 9, No 1 \(2001\)](#) > [Ahn](#)Font Size:   

Scalable Fault-Tolerant Location Management Scheme for Mobile IP

JinHo Ahn, Sung-Gi Min, ChongSun Hwang

Abstract

As the number of mobile nodes registering with a network rapidly increases in Mobile IP, multiple mobility (home of foreign) agents can be allocated to a network in order to improve performance and availability. Previous fault tolerant schemes (denoted by PRT schemes) to mask failures of the mobility agents use passive replication techniques. However, they result in high failure-free latency during registration process if the number of mobility agents in the same network increases, and force each mobility agent to manage bindings of all the mobile nodes registering with its network. In this paper, we present a new fault-tolerant scheme (denoted by CML scheme) using checkpointing and message logging techniques. The CML scheme achieves low failure-free latency even if the number of mobility agents in a network increases, and improves scalability to a large number of mobile nodes registering with each network compared with the PRT schemes. Additionally, the CML scheme allows each failed mobility agent to recover bindings of the mobile nodes registering with the mobility agent when it is repaired even if all the other mobility agents in the same network concurrently fail.



Full Text: [PDF](#)

Reading Tools

[Review policy](#)
[About the author](#)
[How to cite item](#)
[Indexing metadata](#)
[Notify colleague*](#)
[Email the author*](#)
[Add comment*](#)
[RELATED ITEMS](#)
[Author's work](#)
[Book searches](#)
[Web search](#)

* Requires [registration](#)

Search

 
Web [dl.acs.org.au](#)
About the ACS

- [Membership](#)
- [E-learning](#)
- [Scholarships](#)
- [Library](#)
- [Bookstore](#)