

A RECURSIVE COMPONENT BOUNDARY ALGORITHM TO REDUCE RECOVERY TIME FOR MICRO-REBOOTS

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Abstract

Recovery-Oriented Computing (ROC) is a research area that interests to cope with the fault problems, instead of solving them. It is based on the idea that some unsolvable problems are not problems, but facts. Recently invention from ROC is the Microreboots technique. Microreboot is a server mechanism to reboot a subcomponent of the system when it is failed. The main contribution of Microreboot is reducing the recovery time of the system because the server employing Microreboot does not need to restart the whole system when it crashes. Using Microreboots leads to the new concept. That is the better modularizing the components, the smaller the recovery time. This paper introduces a new algorithm for clustering and modularizing the components to make Microreboots better. Our recursive component boundary algorithm is based on the fault-driven approach. We have found that our technique significantly reduces time-to-recovery in the Microreboots system.

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