

TSSA: A Two Step Scheduling Algorithm for the Event-driven Clusters

Yu Chen, Mingming Sun

China Unionpay, Shanghai, China

smilessun@hotmail.com, sunmingming@unionpay.com

Abstract—The event-driven programming model has been proposed to efficiently process iterative applications and incremental applications. In clusters based the event-driven model, applications are structured as a series of short triggers, each of which will be invoked when associate events are triggered. And framework assigns a newly submitted trigger to a node where the relevant datasets set. Unfortunately it may lead to load imbalance because associate events may occur by chance. Numerous triggers in a node may be simultaneously invoked but other nodes have no triggers running. To the end, we provide TSSA, a new two steps event-driven for the event-driven clusters to maximize improve the utilization of node resources. Our results indicate TSSA performs well, and minimizes total execution time of applications.

Keyword—event-driven clusters, event-driven, iterative applications



Yu Chen works in China Unionpay. He is the general manager of China Unionpay Technology Division. His research interests include various aspects of multicore and distributing systems. He has lead many country projects.



Mingming Sun works in China Unionpay. She is a doctor, graduated from University of Science and Technology of China. Her research interests include issues related to parallel algorithm, resource management of cloud computing, and task scheduling algorithm of MapReduce clusters. She has published research papers at international journals, conference proceedings.