Einladung zum
Vortrag

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Gerhard W. Dueck
University of New Brunswick, Canada

Region Based Garbage Collection

Garbage collection is an important process in programming languages that manage the heap automatically. Objects that are dynamically allocated on the heap must be freed once they are no longer accessible. The metrics for evaluating garbage collections methods vary depending on the application. Traditionally, throughput has been the most important feature. Clearly, higher throughput leads to faster execution time of the program. However, in an interactive program the length of the pause times, caused by the garbage collection, may be more important than throughput. The advances in multicore processors have fuelled the development of parallel and concurrent garbage collection algorithms. In this talk a region based memory allocation scheme, developed by IBM, is discussed. Instead of doing global collections, only regions with high a density of dead objects are processed. Global collections are only used as a last resort. It has been shown that under certain conditions such a scheme can reduce the global pauses caused garbage collections.

Biografie

Gerhard Dueck was born in Montevideo, Uruguay. He received the BSc, Master, and PhD degrees in computer science from the University of Manitoba, Winnipeg, Manitoba, Canada, in 1983, 1986, and 1988, respectively. He is currently a professor in the Faculty of Computer Science at the University of New Brunswick. He was the UNB coordinator for a student mobility program with the European Community jointly funded by HRSDC and the European Community. He was instrumental in establish a Dual Master degree with BRSU. From 2008 to 2011 he was the Director of the International Relations Office at the University of New Brunswick.

Since 1999, he is with the Faculty of Computer Science at the University of New Brunswick in Fredericton, NB, Canada. In 2006/07 he spent his sabbatical leave at the University of Bremen as a visiting scientist. He has been actively involved in the IEEE Computer Society Technical Committee on Multiple-Valued Logic, where he served as chair in 1998 and 1999. His research interests include reversible logic, Reed Muller expansions, multiple-valued logic, and digital design. Currently he is participating in an IBM co-funded research project entitled: “Accelerating Java using Massive Multi-core Systems” where he is project leader in several sub-projects dealing with garbage collection. Currently he is a visiting professor at BRSU.

Dieser Gast wurde von Rolf Drechsler eingeladen.
Telefon: 218-63932