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Probabilistic approach to scheduling divisible load on wireless network of processors

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Divisible Load Theory (DLT) merged as a very efficient tool to schedule arbitrarily divisible load on a set of network processors. Most of previous work using DLT assumes that the processors' speed and links' speed are time invariant. Closed time solution was derived for the system based on that the speed of processors and links stay the same during the task execution time. This assumption is not practical as most of the wireless connected processing elements used today have an autonomous control. In this paper we consider distributed wireless systemswhere the availability of the processors varies and it is following a certain distribution function. A closed form solution for the finish time is derived. The solution considers all system parameters such as the links' speed, number of processors, number of resource, and availability of the processors and how much of their power they can contribute. The result of is shown and it measures the variation of execution time against the availability of processors.

Biography

Sameer Bataineh received the BS in Electrical and Computer Engineering from Syracuse University in 1985, and the MS and Doctorate degrees in Computer and Network Engineering from SUNY at Stony Brook in 1990 and 1992 respectively. He joind the EE Department at Jordan University of Science and Technology (JUST) in 1992. In 2002 he was Chairman of the Computer Engineering Department at JUST, and from 2004 to 2008 he was Dean of the IT College at JUST. Since 2008-2012 he worked as a Founder of Khalifa University at UAE and Dean of CIT College at UAEU. Currently he is the Dean of Graduate Studies at JUST.

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