

**Abstract of Presentation**  
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**Note: This paper should be typed in “Times New Roman” of 12pt.**

Presentation Title(Should be no more than 20 words):

Optimizing Low-Cost Computing Platform for Large-Scale Scientific Computing using Genetic Algorithm

Abstract :

We discuss in this presentation on the use of genetic algorithm for optimized clustering and distribution of scientific computation over a large number of desktop computers and servers. Given a large number of computers, we first attempt to compute an optimal set of clusters. The clustering takes into consideration similarity of machine capability plus the interconnection speed. It considers as well the predicted availability pattern for each computer. Then, for each cluster, we optimize the distribution of computing workload over its computers. Hence, the overall optimization procedure optimizes clustered distributed scientific computing. We show in this paper how genetic algorithm effectively be used to perform the optimization.