

This paper investigates the use of Constraint Satisfaction Problem formulation to schedule independent jobs in heterogeneous cloud environment. Our formulation provides a basis for computing an optimal Makespan using job and machine reordering heuristics based on Min-min algorithm result. The combination of these heuristics with the weighted constraints allows improving the efficiency of the tree search algorithm to schedule jobs with considerable space search reduction. The proposed CSP model is validated through simulation experiments against clusters of 10 virtual machines. The results demonstrate that our model is able to efficiently allocate resources for jobs with significant performance gains between 18%-40% compared to the Min-Min heuristic results to optimize the Makespan