
ICTS seminar: Parallel Application Signature for Performance Prediction

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Accurate prediction of parallel applications' performance is becoming increasingly complex and the time required to run it thoroughly is an onerous requirement; especially if we want to predict for different systems.

Our group has created a methodology, Parallel Application Signature for Performance Prediction (PAS2P), to characterize message-passing parallel applications. The execution of the signature in different target systems allows to measure the execution time of each phase, and hence to estimate (predict) the entire application's run time in each of those systems by extrapolation of each phase's execution time using the weights we had obtained. The execution time of the application signature is a small fraction (less than 2%) of the whole application's runtime.