# The methods mostly do not ponder cache

Psychology, Behaviorism

The worst-case execution time is the utmost length of time to compile a specificcalculation task on a unique platform. Task completion on time is animportant aspect in real time systems as we cannot afford large delays. Toensure perfection and correctness of a system, every real time task should beaccomplished within the allocated time of period. For this purpose, it ismandatory to calculate or analyze worst case execution time of every task.

Computing worst case execution time of every task isitself a quite challenging task as if we only test the tasks in general, itcould not be efficient enough to identify the omission of errors. Some of the mostcommonly found issues in worst case execution time analysis are:· It is quite uglyapproach to test a task by again and again calculating the time of a particulartask and also not much safe typically. Moreover, to prove all the conditionsfulfilled while identifying maximum execution time is most often nearly impossibleand itself a much difficult task to be accomplished.· Mostly in latest componentsof processor such as pipelines and caches makes it difficult and complex job ofcalculating worst case execution time with a great pace. Due to which a singleinstruction of task might depends on various instructions or history ofcompilation.· Worst case execution time analysis methods mostlydo not ponder cache and pipeline behaviorwith respect to magnitude which resultantly leads towards considerable wastage of hardware resources. To encounter all the above mentionedissues, below mentioned are some of the solutions to the problems: aiT worst case execution timeanalyzers provided the solution in which they stated that they qualitativelyanalyzed a task's intrinsiccache and pipeline behavior which depends upon pipelines models and formalcache.

This supports correct and narrow upper limits to be calculated for theworst-case execution time.      Red line : Volvo’straditional method blueline : aiT analysis resultsblack line : measured WCET ·        aiT calculated limitsare very tightly bounded whichis resultantly projects the real performance of the system.·        aiT calculated rangesare perfect for all the inputs and every time compilation of a task.·        Binary executables aredirectly analyzes in aiT.

It is highly independent of the compiler and programminglanguage used for source code.