

Lab 2 Report and Write-up

Throughout this lab, we were looking at the different scheduling methods and looking at which one was most efficient with the time. Looking at the schedules for both RMA and EDF in the six provided test cases we notice that most of the time RMA has less missed deadlines than EDF. The deadline misses and other information can be found in Table 1 below. However, even though RMA missed less deadlines, it was required to keep track of way task preemptions and that would cause the scheduler to use more memory.

Table 1. Results from the different scheduling methods

	RMA Missed Deadlines	RMA Preemptions	RMA Average Response Time	EDF Missed Deadlines	EDF Average Response Time
Periodic Only -Input1	3	27	N/A	8	N/A
Periodic Only -Input2	4	52	N/A	8	N/A
Periodic Only -Input3	4	12	N/A	9	N/A
Both – Input1	255	427	.166	679	5
Both – Input2	7	40	.166	14	3.8
Both – Input3	7	67	.166	20	4.6

Noticing that RMA would take more memory to execute its scheduling algorithm would make it less attractive to potential embedded engineers working on soft deadline tasks. This is because the engineers would see that they wouldn't have to allocate as much memory to the scheduler while still maintaining functionality. Because RMA has fewer deadline misses than EDF it would be reasonable to assume that embedded engineers working with hard deadline tasks would go for the RMA scheduling at the expense of memory.

While these algorithms would make good schedules with given tasks trying to minimize missed deadlines, they each have their drawbacks. RMA uses more memory and EDF misses more deadlines. These are considerations that must be considered by the embedded engineer to decide which would be best for their application.