Earliest Deadline First (EDF) - Dynamic

18 Eylül 2017 Pazartesi 12:50

Whenever an event occurs scheduler must run again.
This time priority calculated by absolute deadline
Dealine - covered value = Absolute deadline?

Example

$T_1(2,1), T_2(5,3)$ Give priority to closest deadline
Hper period = 10
Total time required = 11 } Not feasable

$T_1(2,1), T_2(5,2.5) \Rightarrow$ feasable

Note
If you have 69% percent of CPU utilization it will propably not schedule
%100 utilization is unlikely scenario. Happens because there is 2 tasks and their period and deadlines are close

Ex
$T_1(5,1) \rightarrow 4 \times 1 = 4$
$T_2(4,2) \rightarrow 5 \times 2 = 20$
$T_3(20,5) \rightarrow 1 \times 5 = 5$
~~$T_4(10,1) \rightarrow 2 \times 1 = 2$~~ $\Rightarrow$ Eliminate $\Rightarrow \frac{19}{20}$
21/20

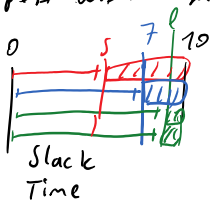
$\sum_{i=1}^{n} \frac{e_i}{P_i} = \frac{1}{8} + \frac{2}{4} + \frac{5}{20} = \frac{19}{20}$
if greater than 1 its impossible

If you can make sure that no deadlines missed when a new task instance launched, there will be no dealine miss. But in real life you can't make sure that because tasks effect each other and will delay each other according to used algorithm.

Note
Computation and scheluding will be done prior. Not in realtime

Least Slack Time First: LSF
Time that could be spent without missing the deadline.

Assignment: 5
Second Assignment: 3
Watchin Film: 1
FM? : 1



Slack Time

when a task assigned deadline changes therefore slack time changes

Liu's book 123