TD Etude du délais pour le réseau Spacewire

3SN parcours SEMBIIOT

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We would like to study the communication delays of the satellite network architecture case study. As it is difficult (and not interesting) to compute all the transmission delays, we only focus on HouseKeeping (HK) flows.

Q1. What is the worst-case transmission delay of the HK flow sent by A_0 to PM using the recursive calculus ?

Q2. Are the real-time constraints of the application A_0 respected ?

Let consider now the architecture of the Figure 1. Flux properties are given in Table 1.

Q3. What is the worst-case delay of the flow from A_0 to PM ?

Q4. By constructing the scenario leading to the worst-case delay, what is the value of the delay ? Is it the same as the one previously computed in question 3 ?

Q5. In this case study, we did not take into account the transmission period. What could be the impact of this parameter in the analysis ?

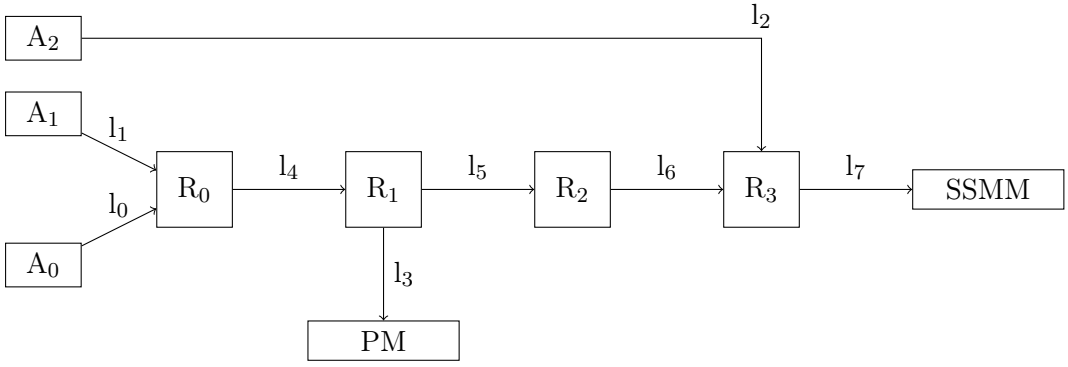

Figure 1 – A new example

Flow	Source and destination	Size (octets)
0	$A_0 \rightarrow$ PM	128
1	$A_1 \rightarrow$ SSMM	128
2	$A_2 \rightarrow$ SSMM	128

Tableau 1 – Flow properties