Errata to "Time-Triggered Co-Scheduling of Computation and Communication with Jitter Requirements" [1]

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***Abstract*—We present the correct equation on linearisation of jitter constraints for ILP and the correct equation on computation slack of activities.**

The correct formulation of Equation (12) (linearization of the jitter constraints) is

$$\begin{aligned} s_i^j - (s_i^{j-1} + p_i) &\leq jit_i, \\ s_i^j - (s_i^{j-1} + p_i) &\geq -jit_i, \\ (s_i^1 + H) - (s_i^{n_i} + p_i) &\leq jit_i, \\ (s_i^1 + H) - (s_i^{n_i} + p_i) &\geq -jit_i, \\ j = 2, \cdots, n_i,\ a_i &\in A. \end{aligned}$$

This corresponds to linearization of Equation (10), which is formulated as

$$\begin{aligned} |s_i^j - (s_i^{j-1} + p_i)| &\leq jit_i, \\ |(s_i^1 + H) - (s_i^{n_i} + p_i)| &\leq jit_i, \\ j = 2, \cdots, n_i,\ a_i &\in A, \end{aligned}$$

where the unnecessary index k is removed and the second equation is regrouped to be more intuitive to understand.

Also, the correct version of Equation (13) to compute maximum slack is

$$I_i = 2 \cdot p_i - (t^b + t^a + e_i) + 1$$

References

[1] A. Minaeva, B. Akesson, Z. Hanzálek, and D. Dasari. Time-triggered co-scheduling of computation and communication with jitter requirements. *IEEE Transactions on Computers*, 67(1):115–129, 2017.