Corrigendum to A Correctness Proof of a One-bit Sliding Window Protocol in μCRL

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Due to a misunderstanding between the editor and the authors of [1] an old version of this article has been published. The formulation and the proof of the main result (Theorem 2.1 and Theorem 8.2) are not correct. These theorems must be replaced by

THEOREM. For all $d_1, e_1, d_2, e_2{:}D, p_1, p_2{:}Bit$

$$OSWP(d_1, e_1, d_2, e_2, p_1, p_2) = \tau\, DQ(\emptyset, \emptyset, 2)$$

The difference is that now a τ precedes DQ. The proof of Theorem 8.2 in Table 5 must be adapted by adding τ's in front of the first three lines. Also, all occurrences of e_1 and e_2, except those in the last two lines, must be replaced by d_2 and d_1 for the application of Lemma 7.1 to be allowed. When applying Lemma 3.1 also use that $S(t,t,t,d,e,p,q) = S(t,t,t,d,e',p,q)$.

Also Lemma 8.1 and the beginning of its proof must be adapted:

LEMMA. For all $d_1, d_2, e_1, e_2{:}D$ and $size_1, size_2{:}Nat$ we have

$$\begin{gathered}\mathrm{size}_1 \leq 2 \wedge \mathrm{size}_2 \leq 2 \rightarrow \\ \tau(\rho_{\{sd\rightarrow sb\}}(R(d_1, e_2, \mathrm{size}_1)) \parallel \rho_{\{ra\rightarrow rc\}}(R(d_2, e_1, \mathrm{size}_2))) \\ = \tau_{\{i\}}(B(d_1, e_2, \mathrm{size}_1, d_2, e_1, \mathrm{size}_2)).\end{gathered}$$

The right hand side of the guarded recursive specification in the proof must be preceded by a τ. Furthermore, all lines in Table 4 must be preceded by a τ. We apply in this proof Koomen's Fair Abstraction Rule (KFAR) valid for weak bisimulation, but list in Table 9 a KFAR valid in branching bisimulation. In KFAR for weak bisimulation the left hand side of the '=' is not prefixed by a τ.

We are happy to send upon request a completely corrected version of the paper.

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REFERENCES

[1] Bezem, M.A. and Groote, J.F. (1994) A correctness proof of a one-bit sliding window protocol in μCRL. *The Computer Journal*, **37**(4), 289–307.

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