# Errata for *Compositionality, Decompositionality and Refinement in Input/Output Conformance Testing*

Lars Luthmann Stephan Mennicke Malte Lochau

February 14, 2019

Our publication titled *Compositionality, Decompositionality and Refinement in Input/Output Conformance Testing* [1] requires the following corrections.

**Section 2, page 57.** In particular, $p$ is *quiescent*, denoted $\delta(p)$, iff

$$init(p) := \{\alpha \in (I \cup O \cup \{\tau\}) \mid p \xrightarrow{\alpha}\} \subseteq I$$

holds.

**Section 3, page 61.** Definition 4 needs to be changed as follows.

**Definition 4.** *Let $Q$ be a $MIA_\Phi$ over $I$ and $O$, $p \in Q$ and $\sigma \in (I \cup O \cup \{\delta, \varphi\})^*$.*

- $init_\gamma(p) := \{\mu \in (I \cup O) \mid p \xrightarrow{\mu}_\gamma\} \cup \{\varphi \mid p = p_\Phi\}$,
- *$p$ is* may-quiescent*, denoted by $\delta_\Diamond(p)$, iff $init_\Box(p) \subseteq I$, $p \not\xrightarrow{\tau}_\Box$, and $p \neq p_\Phi$,*
- *$p$ is* must-quiescent*, denoted by $\delta_\Box(p)$, iff $init_\Diamond(p) \subseteq I$, $p \not\xrightarrow{\tau}_\Diamond$, and $p \neq p_\Phi$,*
- *$p$ is* may-failure*, denoted by $\varphi_\Diamond(p)$, iff $p = p_\Phi$ or $\exists p' \in Q : (p'' \xrightarrow{i}_\Diamond p \wedge p'' \not\xrightarrow{i}_\Box p)$,*
- *$p$ is* must-failure*, denoted by $\varphi_\Box(p)$, iff $p = p_\Phi$,*
- $p\,\mathbf{after}_\gamma\,\sigma := \{p' \mid p \overset{\sigma}{\Longrightarrow}_\gamma p'\}$,
- $Out_\gamma(p) := \{\mu \in O \mid p \xrightarrow{\mu}_\gamma\} \cup \{\delta \mid \delta_\gamma(p)\} \cup \{\varphi \mid \varphi_\gamma(p)\}$, *and*
- $Straces_\gamma(p) := \{\sigma \in (I \cup O \cup \{\delta, \varphi\})^* \mid p \overset{\sigma}{\Longrightarrow}_\gamma\}$, *where $p \xrightarrow{\delta}_\gamma p$ if $\delta_\gamma(p)$, and $p \xrightarrow{\varphi}_\gamma p$ if $\varphi_\gamma(p)$.*

## References

[1] L. Luthmann, S. Mennicke, and M. Lochau. Compositionality, Decompositionality and Refinement in Input/Output Conformance Testing. In *FACS'16*, pages 54–72. Springer International Publishing, 2016.