

send-once-p^{11,40}

locl(a) sends $[tg, f\{A \rightarrow T\}(x)]$ on link l once

$$\begin{aligned} &\equiv_{\text{def}} (\text{subtype_rel}(\text{es_vartype}(es; \text{source}(l); x); A) \\ &\quad \wedge (\forall e:\text{es-E}(es). (\text{es_kind}(es; e) = \text{rcv}(l, tg)) \Rightarrow \text{subtype_rel}(\text{es_valtype}(es; e); T))) \\ &\quad c \wedge (\exists e:\text{es-E}(es) \\ &\quad \quad ((\text{es_kind}(es; e) = \text{rcv}(l, tg)) \\ &\quad \quad c \wedge ((\text{es_val}(es; e) = f(\text{es_when}(es; x; \text{es_sender}(es; e)))) \\ &\quad \quad \quad \wedge (\text{es_kind}(es; \text{es_sender}(es; e)) = \text{locl}(a)) \\ &\quad \quad \quad \wedge (\forall e':\text{es-E}(es). \\ &\quad \quad \quad \quad (\text{es_kind}(es; e') = \text{rcv}(l, tg)) \\ &\quad \quad \quad \quad \Rightarrow (\text{es_kind}(es; \text{es_sender}(es; e')) = \text{locl}(a)) \\ &\quad \quad \quad \quad \Rightarrow (e' = e)))))) \end{aligned}$$

clarification:

send-once-p($es; T; A; a; l; tg; f; x$)

$$\begin{aligned} &\equiv_{\text{def}} (\text{subtype_rel}(\text{es_vartype}(es; \text{source}(l); x); A) \\ &\quad \wedge (\forall e:\text{es-E}(es). \\ &\quad \quad (\text{es_kind}(es; e) = \text{rcv}(l, tg) \in \text{Knd}) \Rightarrow \text{subtype_rel}(\text{es_valtype}(es; e); T))) \\ &\quad c \wedge (\exists e:\text{es-E}(es) \\ &\quad \quad ((\text{es_kind}(es; e) = \text{rcv}(l, tg) \in \text{Knd}) \\ &\quad \quad c \wedge ((\text{es_val}(es; e) = f(\text{es_when}(es; x; \text{es_sender}(es; e)))) \in T) \\ &\quad \quad \quad \wedge (\text{es_kind}(es; \text{es_sender}(es; e)) = \text{locl}(a) \in \text{Knd}) \\ &\quad \quad \quad \wedge (\forall e':\text{es-E}(es). \\ &\quad \quad \quad \quad (\text{es_kind}(es; e') = \text{rcv}(l, tg) \in \text{Knd}) \\ &\quad \quad \quad \quad \Rightarrow (\text{es_kind}(es; \text{es_sender}(es; e')) = \text{locl}(a) \in \text{Knd}) \\ &\quad \quad \quad \quad \Rightarrow (e' = e \in \text{es-E}(es)))))) \end{aligned}$$