es-kind-sends-iff[0,22]

state ds
$k{:}A$ sends $[tg,\ e.f(e){:}B]$ on l
$\equiv_{\text{def}}$ $(\forall e{:}\text{E}.\ \text{kind}(e) = \text{rcv}(l,tg) \Rightarrow \text{valtype}(e) \subseteq \rho\ B)$
& $(\forall x{:}\text{Id}.\ \text{vartype}(\text{source}(l);x) \subseteq \rho\ ds(x)?\text{Top})$
& $(\forall e{:}\text{E}.\ \text{kind}(e) = k \Rightarrow \text{loc}(e) = \text{source}(l) \Rightarrow \text{valtype}(e) \subseteq \rho\ A)$
& $\forall e@\text{source}(l).$
$\text{kind}(e) = k \Rightarrow \text{isl}(f(e)) \Rightarrow (\exists e'{:}\text{E}.\ \text{kind}(e') = \text{rcv}(l,tg)\ \&\ \text{sender}(e') = e)$
& $(\forall e'{:}\text{E}.$
$\text{kind}(e') = \text{rcv}(l,tg)$
$\Rightarrow \text{kind}(\text{sender}(e')) = k\ \&\ \text{isl}(f(\text{sender}(e')))\ \&\ \text{val}(e') = \text{outl}(f(\text{sender}(e))))$
& $(\forall e'{:}\text{E}.$
$\text{kind}(e') = \text{rcv}(l,tg)$
$\Rightarrow (\forall e''{:}\text{E}.\ \text{kind}(e'') = \text{rcv}(l,tg) \Rightarrow \text{sender}(e'') = \text{sender}(e') \Rightarrow e'' = e'))$

clarification:

$\text{es-kind-sends-iff}(es;k;A;l;tg;B;ds;e.f(e))$
$\equiv_{\text{def}}$ $(\forall e{:}\text{es-E}(es).\ \text{es-kind}(es;\ e) = \text{rcv}(l,tg) \in \text{Knd} \Rightarrow \text{es-valtype}(es;\ e) \subseteq \rho\ B)$
& $(\forall x{:}\text{Id}.\ \text{es-vartype}(es;\ \text{source}(l);\ x) \subseteq \rho\ \text{fpf-cap}(ds;\text{IdDeq};x;\text{Top}))$
& $(\forall e{:}\text{es-E}(es).$
$\text{es-kind}(es;\ e) = k \in \text{Knd}$
$\Rightarrow \text{es-loc}(es;\ e) = \text{source}(l) \in \text{Id}$
$\Rightarrow \text{es-valtype}(es;\ e) \subseteq \rho\ A)$
& $\text{alle-at}(es;\text{source}(l);e.\text{es-kind}(es;\ e) = k \in \text{Knd}$
$\Rightarrow \text{isl}(f(e))$
$\Rightarrow (\exists e'{:}\text{es-E}(es).$
$\text{es-kind}(es;\ e') = \text{rcv}(l,tg) \in \text{Knd}$
$\&\ \text{es-sender}(es;\ e') = e \in \text{es-E}(es)))$
& $(\forall e'{:}\text{es-E}(es).$
$\text{es-kind}(es;\ e') = \text{rcv}(l,tg) \in \text{Knd}$
$\Rightarrow \text{es-kind}(es;\ \text{es-sender}(es;\ e')) = k \in \text{Knd}$
$\&\ \text{isl}(f(\text{es-sender}(es;\ e')))$
$\&\ \text{es-val}(es;\ e') = \text{outl}(f(\text{es-sender}(es;\ e'))) \in B)$
& $(\forall e'{:}\text{es-E}(es).$
$\text{es-kind}(es;\ e') = \text{rcv}(l,tg) \in \text{Knd}$
$\Rightarrow (\forall e''{:}\text{es-E}(es).$
$\text{es-kind}(es;\ e'') = \text{rcv}(l,tg) \in \text{Knd}$
$\Rightarrow \text{es-sender}(es;\ e'') = \text{es-sender}(es;\ e') \in \text{es-E}(es)$
$\Rightarrow e'' = e' \in \text{es-E}(es)))$

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http://www.cs.cornell.edu/Info/Projects/NuPrl/FDLcontent/p0_286125_/p30_320423_{es-kind-sends-iff}.html