

send-minimal-realizable^{0,22}

$\forall T:\text{Type}, l:\text{IdLnk}, ds_1, ds_2:x:\text{Id fp} \rightarrow \text{Type}, P:(\text{State}(ds_1) \rightarrow \mathbb{N} \rightarrow \text{Prop}),$
 $Q:(\text{State}(ds_2) \rightarrow \mathbb{N} \rightarrow \text{Prop}), f:(\text{State}(ds_1) \rightarrow \mathbb{N} \rightarrow T).$
 $\text{Normal}(T)$
 $\Rightarrow \text{Normal}(ds_1)$
 $\Rightarrow \text{Normal}(ds_2)$
 $\Rightarrow \neg \text{destination}(l) = \text{source}(l) \in \text{Id}$
 $\Rightarrow (\forall s:\text{State}(ds_1). \text{Dec}(\exists k:\mathbb{N}. \neg P(s,k)))$
 $\Rightarrow (\forall s:\text{State}(ds_2). \text{Dec}(\exists k:\mathbb{N}. \neg Q(s,k)))$
 $\Rightarrow (\forall s:\text{State}(ds_1), k:\mathbb{N}. \text{Dec}(P(s,k)))$
 $\Rightarrow (\forall s:\text{State}(ds_2), k:\mathbb{N}. \text{Dec}(Q(s,k)))$
 $\Rightarrow \vdash es.\text{@source}(l) \text{ state } ds_1 \ \& \ (\forall e:\text{E}. \text{kind}(e) = \text{rcv}(l, \text{"tg"}) \in \text{Knd} \Rightarrow \text{valtype}(e) \subseteq \rho \ T)$
 $\quad \& \ \text{@destination}(l) \text{ state } ds_2$
 $\quad \& \ (\forall e:\text{E}. \text{kind}(e) = \text{rcv}(\text{lnk-inv}(l), \text{"tg"}) \in \text{Knd} \Rightarrow \text{valtype}(e) \subseteq \rho \ \mathbb{Z})$
 $\Rightarrow (\forall k:\mathbb{N}. \text{@source}(l) \text{ stable } s.P(s,k))$
 $\Rightarrow (\forall k:\mathbb{N}. \text{@destination}(l) \text{ stable } s.Q(s,k))$
 $\Rightarrow (\forall k:\mathbb{N}.$
 $\quad \forall e\text{@source}(l).$
 $\quad P(\text{state after } e,k)$
 $\quad \Rightarrow \exists e'\text{@destination}(l). Q((\text{state when } e'),k) \vee (\forall n:\mathbb{N}. Q(\text{state after } e',n)))$
 $\Rightarrow (\forall e:\text{E}.$
 $\quad \text{kind}(e) = \text{rcv}(\text{lnk-inv}(l), \text{"tg"}) \in \text{Knd} \Rightarrow (\forall k:\mathbb{N}. k < \text{val}(e) \Rightarrow P(\text{state after } e,k)))$
 $\Rightarrow (\forall k:\mathbb{N}, e:\text{E}.$
 $\quad \text{kind}(e) = \text{rcv}(l, \text{"tg"}) \in \text{Knd}$
 $\quad \Rightarrow \text{val}(e) = f((\text{state when sender}(e)),k) \in T$
 $\quad \Rightarrow Q(\text{state after } e,k))$
 $\Rightarrow \exists e\text{@destination}(l). \text{True}$
 $\Rightarrow (\forall k:\mathbb{N}.$
 $\quad \exists e\text{@destination}(l). (\forall n:\mathbb{N}_{<k}. Q((\text{state when } e),n)) \vee (\forall n:\mathbb{N}. Q(\text{state after } e,n)))$