

## conditional-send1-function<sup>11,40</sup>

$\forall k:\text{Knd}, T, A, B:\text{Type}, l:\text{IdLnk}, x, tg:\text{Id}, f:(A \rightarrow B \rightarrow T), c:(A \rightarrow B \rightarrow \mathbb{B}), es:\text{ES}.$   
 $k(v:B)$  sends  
 $f(x:A,v)$  on  
 $l$  tagged with  $tg:T$   
provided  $c(x,v)$   
 $\Rightarrow (\exists g:\{e:E| \text{loc}(e) = \text{source}(l) \in \text{Id} \ \& \ \text{kind}(e) = k \ \& \ (\uparrow(c((x \text{ when } e),\text{val}(e))))\} \rightarrow E$   
 $(\forall e:\{e:E| \text{loc}(e) = \text{source}(l) \in \text{Id} \ \& \ \text{kind}(e) = k \ \& \ (\uparrow(c((x \text{ when } e),\text{val}(e))))\} .$   
 $(\text{kind}(g(e)) = \text{rcv}(l,tg) \in \text{Knd})$   
 $c \wedge (\text{sender}(g(e)) = e$   
 $\& (\forall e'':E. (\text{kind}(e'') = \text{rcv}(l,tg) \in \text{Knd}) \Rightarrow (\text{sender}(e'') = e) \Rightarrow (e'' = g(e)))$   
 $\& \text{val}(g(e)) = f((x \text{ when } e),\text{val}(e))))$