

## awaiting-2-tt<sup>11,40</sup>

$\forall es:ES, ff:FIFO, is\_req, is\_ack:(E \rightarrow \mathbb{P}), awaiting, owes\_ack:(Id \rightarrow Id \rightarrow Id).$   
 $(ff.C \subseteq_r Id)$   
 $\Rightarrow (\forall i, j:ff.C. @i(awaiting(i,j):\mathbb{B}) \ \& \ @i(owes\_ack(i,j):\mathbb{B}))$   
 $\Rightarrow (\forall i:ff.C, e:E. (ff.R(i,e)) \Rightarrow (loc(e) = i \in Id))$   
 $\Rightarrow (\forall e:E. Dec(is\_req(e)) \ \& \ Dec(is\_ack(e)))$   
 $\Rightarrow (\forall i, j:ff.C, e:E. Dec(ff.S(i,j,e)))$   
 $\Rightarrow (\forall i, j:ff.C, e:E. (ff.S(i,j,e)) \Rightarrow (loc(e) = i \in Id))$   
 $\Rightarrow \text{plus-ify}\{i:1\}(es;ff;is\_req;is\_ack;awaiting;owes\_ack)$   
 $\Rightarrow (\forall sndr, rcvr:ff.C, e:E.$   
     $(loc(e) = sndr \in Id)$   
     $\Rightarrow ((awaiting(sndr,rcvr) \text{ when } e) = ff \in \mathbb{B})$   
     $\Rightarrow ((awaiting(sndr,rcvr) \text{ after } e) = tt \in \mathbb{B})$   
     $\Rightarrow [e: sndr \dashrightarrow is\_req \rightarrow rcvr])$