

last-es-snds-index^{11,40}

$$\begin{aligned}
& \forall the_es:ES, e':E, l:IdLnk, n:\{0..\|\text{sends}(l;e')\|+1\}^-. \\
& (\neg(\text{snds}(l, \text{before}(e',n)) = [] \in ((\text{Msg on } l) \text{ List}))) \\
& \Rightarrow (\exists e:E \\
& \quad \exists m:\{0..\|\text{sends}(l;e)\|^- \} \\
& \quad (((e <_{\text{loc}} e') \vee (e = e' \ \& \ (m < n))) \\
& \quad \ \& \ \text{snds}(l, \text{before}(e',n)) \\
& \quad = \\
& \quad (\text{snds}(l, \text{before}(e,m)) \ @ \ [\text{sends}(l;e)[m]]) \\
& \quad \in ((\text{Msg on } l) \text{ List}) \\
& \quad \& \ (\forall e'':E, k:\mathbb{N}. \\
& \quad (((e <_{\text{loc}} e'') \vee (e = e'' \ \& \ (m < k))) \ \& \ ((e'' <_{\text{loc}} e') \vee (e'' = e' \ \& \ (k < n)))) \\
& \quad \Rightarrow (\|\text{sends}(l;e'')\| \leq k)))
\end{aligned}$$