

msga-body^{0,22}

MsgA($ds; da$)

\equiv_{def} $x:\text{Id}$ fp $\rightarrow ds(x)?\text{Void}$
 $\times a:\text{Id}$ fp $\rightarrow \text{State}(ds) \rightarrow \text{Valtype}(da; \text{locl}(a)) \rightarrow \text{Prop}$
 $\times kx:\text{Knd} \times \text{Id}$ fp $\rightarrow \text{State}(ds) \rightarrow \text{Valtype}(da; 1\text{of}(kx)) \rightarrow ds(2\text{of}(kx))? \text{Void}$
 $\times kl:\text{Knd} \times \text{IdLnk}$ fp \rightarrow
 ($tg:\text{Id} \times (\text{State}(ds) \rightarrow \text{Valtype}(da; 1\text{of}(kl)) \rightarrow (da(\text{rcv}(2\text{of}(kl), tg))? \text{Void List}))$) List
 $\times x:\text{Id}$ fp $\rightarrow \text{Knd List}$
 $\times ltg:\text{IdLnk} \times \text{Id}$ fp $\rightarrow \text{Knd List}$
 $\times k:\text{Knd}$ fp $\rightarrow \text{Id List}$
 $\times k:\text{Knd}$ fp $\rightarrow \text{IdLnk List}$
 $\times ltg:\text{Id}$ fp $\rightarrow \text{Knd List}$
 $\times \text{Top}$

clarification:

msga-body $\{i:l\}$

($ds; da$)
 \equiv_{def} $x:\text{Id}$ fp $\rightarrow \text{fpf-cap}(ds; \text{IdDeq}; x; \text{Void})$
 $\times a:\text{Id}$ fp $\rightarrow \text{State}(ds) \rightarrow \text{Valtype}(da; \text{locl}(a)) \rightarrow \text{Prop}_i$
 $\times kx:\text{Knd} \times \text{Id}$ fp $\rightarrow \text{State}(ds) \rightarrow \text{Valtype}(da; 1\text{of}(kx)) \rightarrow \text{fpf-cap}(ds; \text{IdDeq}; 2\text{of}(kx); \text{Void})$
 $\times kl:\text{Knd} \times \text{IdLnk}$ fp \rightarrow
 ($tg:\text{Id}$
 $\times (\text{State}(ds) \rightarrow \text{Valtype}(da; 1\text{of}(kl)) \rightarrow$
 ($\text{fpf-cap}(da; \text{KindDeq}; \text{rcv}(2\text{of}(kl), tg); \text{Void}) \text{List}))$) List
 $\times x:\text{Id}$ fp $\rightarrow \text{Knd List}$
 $\times ltg:\text{IdLnk} \times \text{Id}$ fp $\rightarrow \text{Knd List}$
 $\times k:\text{Knd}$ fp $\rightarrow \text{Id List}$
 $\times k:\text{Knd}$ fp $\rightarrow \text{IdLnk List}$
 $\times ltg:\text{Id}$ fp $\rightarrow \text{Knd List}$
 $\times \text{Top}$