

chain-consistent-same-sender^{13,45}

$\forall es:ES, Cmd:Type, In:AbsInterface(Cmd), isupdate:(Cmd \rightarrow \mathbb{B}), Sys, Out:AbsInterface(Top).$
 $(E(In) \subseteq_r E(Sys))$
 $\Rightarrow (\forall f:sys\text{-}antecedent(es;Sys).$
 $(\forall u:E(Sys). (f(u) = u \in E) \iff (\uparrow(u \in_b In)))$
 $\Rightarrow (\forall chain:(E(Sys) \rightarrow Id \text{ List})).$
 $chain\text{-}consistent(f;chain)$
 $\Rightarrow (\forall e, e':E(Sys).$
 $(\neg(\text{loc}(f(e)) = \text{loc}(e) \in Id))$
 $\Rightarrow (e' <_{\text{loc}} e)$
 $\Rightarrow (\text{loc}(f(e')) = \text{loc}(f(e)) \in Id)$
 $\Rightarrow (\forall a:E(Sys).$
 $e' \leq_{\text{loc}} a$
 $\Rightarrow a \leq_{\text{loc}} e$
 $\Rightarrow (\neg(\text{loc}(f(a)) = \text{loc}(a) \in Id))$
 $\Rightarrow (\text{loc}(f(a)) = \text{loc}(f(e)) \in Id))))))$