

chain-consistent-out-continuity^{13,45}

$\forall es:ES, Cmd:Type, In:AbsInterface(Cmd), isupdate:(Cmd \rightarrow \mathbb{B}), Sys, Out:AbsInterface(Top).$
 $(E(In) \subseteq_r E(Sys))$
 $\Rightarrow (\forall f:sys\text{-antecedent}(es;Sys).$
 $(\forall e:E(In). f(e) = e \in E)$
 $\Rightarrow (\forall chain:(E(Sys) \rightarrow (Id List)).$
 $chain\text{-consistent}(f;chain)$
 $\Rightarrow (\forall x, y:E(Sys).$
 $x \text{ is } f^*(y)$
 $\Rightarrow (E(Out) \subseteq_r E(Sys))$
 $\Rightarrow (\forall e':E(In).$
 $(\uparrow(isupdate(In(e'))))$
 $\Rightarrow (\exists z:E(Sys). (y \leq_{loc} z \ \& \ (\uparrow(z \in_b Out))))$
 $\Rightarrow loc(x) << loc(e')$
 $\Rightarrow (\exists e:E(Sys)$
 $(loc(e) = loc(e') \in Id$
 $\ \& \ (\neg(loc(f(e)) = loc(e) \in Id))$
 $\ \& \ e \text{ is } f^*(y)$
 $\ \& \ x \text{ is } f^*(e))))))$