

### chain-path-ordered-same-loc3<sup>13,45</sup>

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