

## ecl-precond-compatible<sup>11,40</sup>

$\forall i:\text{Id}, ds:\text{fpf}(\text{Id}; x.\text{Type}), da:\text{fpf}(\text{Knd}; k.\text{Type}), A:\text{ecl}(ds; da), snd:\text{msg-spec}(ds; da), upd:\text{update-spec}(ds; da).$   
 $\text{update-spec-decl}(upd; ds)$   
 $\Rightarrow \text{msg-spec-loc-decl}(snd; i; da)$   
 $\Rightarrow (\neg(\uparrow\text{fpf-dom}(\text{id-deq}; \text{mkid}\{\text{ecl:ut2}\}; ds)))$   
 $\Rightarrow \text{R-Feasible}\{i:l\}$   
     $(\text{ecl-machine}\{\text{ecl:ut2}\}(i; ds; da; A; snd; upd))$   
 $\Rightarrow (\forall a:\text{Id}, ds_2:\text{fpf}(\text{Id}; x.\text{Type}), T:\text{finite-prob-space}, P:(\text{decl-state}(ds_2) \rightarrow \mathbb{B}).$   
     $(\neg(\uparrow\text{fpf-dom}(\text{id-deq}; \text{mkid}\{\text{ecl:ut2}\}; ds_2)))$   
     $\Rightarrow \text{fpf-compatible}(\text{Id}; x.\text{Type}; \text{id-deq}; ds; ds_2)$   
     $\Rightarrow (\uparrow\text{fpf-dom}(\text{Kind-deq}; \text{locl}(a); da))$   
     $\Rightarrow (\text{p-outcome}(T) = \text{fpf-ap}(da; \text{Kind-deq}; \text{locl}(a)) \in \text{Type})$   
     $\Rightarrow \text{R-compat}\{i:l\}$   
         $(\text{ecl-machine}\{\text{ecl:ut2}\}(i; ds; da; A; snd; upd); \text{Rpre}(i; ds_2; a; T; P)))$