

ecl-disjoint-compatible^{11,40}

$$\begin{aligned} & \forall i:\text{Id}, ds:\text{fpf}(\text{Id}; x.\text{Type}), da:\text{fpf}(\text{Knd}; k.\text{Type}), A:\text{ecl}(ds; da), snd:\text{msg-spec}(ds; da), \\ & \quad upd:\text{update-spec}(ds; da). \\ & \text{update-spec-decl}(upd; ds) \\ & \Rightarrow \text{msg-spec-loc-decl}(snd; i; da) \\ & \Rightarrow (\neg(\uparrow\text{fpf-dom}(\text{id-deq}; \text{mkid}\{\text{ecl:ut2}\}; ds))) \\ & \Rightarrow \text{R-Feasible}\{i:l\} \\ & \quad (\text{ecl-machine}\{\text{ecl:ut2}\}(i; ds; da; A; snd; upd)) \\ & \Rightarrow (\forall R:\text{es_realizer}\{i:l\}. \\ & \quad (\neg(\uparrow\text{R-has-loc}(R; i))) \\ & \quad \Rightarrow \text{R-Feasible}\{i:l\} \\ & \quad \quad (R)) \\ & \Rightarrow \text{L.all}(\text{append}(\text{ecl-kinds}(A); \text{fpf-domain}(da)); \\ & \quad \text{Knd}; \\ & \quad k.((\uparrow\text{isrcv}(k)) \\ & \quad \Rightarrow (((\text{source}(\text{lnk}(k)) = i \in \text{Id}) \\ & \quad \Rightarrow \text{subtype_rel}(\text{ma-valtype}(da; k); \\ & \quad \quad \text{fpf-cap}(\text{R-da}(R; \text{destination}(\text{lnk}(k))); \text{Kind-deq}; k; \text{top}))) \\ & \quad \wedge ((\text{destination}(\text{lnk}(k)) = i \in \text{Id}) \\ & \quad \Rightarrow \text{subtype_rel}(\text{fpf-cap}(\text{R-da}(R; \text{source}(\text{lnk}(k))); \text{Kind-deq}; k; \text{void}); \\ & \quad \quad \text{fpf-cap}(da; \text{Kind-deq}; k; \text{void})))))) \\ & \Rightarrow \text{R-compatible}\{i:l\} \\ & \quad (\text{ecl-machine}\{\text{ecl:ut2}\}(i; ds; da; A; snd; upd); R)) \end{aligned}$$