es-simul[0,22]

$e{:}s.P(s)@j$
$\equiv_{\text{def}}$ $(\forall x{:}\text{Id}.\ \text{vartype}(j;x) \subseteq \rho\ ds(x)?\text{Top})$
& $\forall e'@j.\ (e' < e) \Rightarrow P(\text{state after } e') \vee (\exists e''{:}\text{E}.\ (e' <_{\text{loc}} e'')\ \&\ (e' < e))$
& $\forall e'@j.\ (e < e') \Rightarrow P((\text{state when } e')) \vee (\exists e''{:}\text{E}.\ (e'' <_{\text{loc}} e')\ \&\ (e < e'))$

clarification:

es-simul(es;e;j;ds;$s.P(s)$)
$\equiv_{\text{def}}$ $(\forall x{:}\text{Id}.\ \text{es-vartype}(es;\ j;\ x) \subseteq \rho\ \text{fpf-cap}(ds;\text{IdDeq};x;\text{Top}))$
& alle-at(es;j;e'.es-causl(es; e'; e)
$\Rightarrow P(\text{es-state-after}(es;e'))$
$\vee\ (\exists e''{:}\text{es-E}(es).\ \text{es-locl}(es;\ e';\ e'')\ \&\ \text{es-causl}(es;\ e';\ e)))$
& alle-at(es;j;e'.es-causl(es; e; e')
$\Rightarrow P(\text{es-state-when}(es;e'))$
$\vee\ (\exists e''{:}\text{es-E}(es).\ \text{es-locl}(es;\ e'';\ e')\ \&\ \text{es-causl}(es;\ e;\ e')))$

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http://www.cs.cornell.edu/Info/Projects/NuPrl/FDLcontent/p0_286125_/p44_86952_{es-simul}.html