

es-copies^{0,22}

e copies x

$\equiv_{\text{def}} \exists a:\text{Atom1}.$
($\text{loc}(e) \gg a \Rightarrow x$ when $\text{es-init}(es;e):\text{vartype}(\text{loc}(e);x) \gg a$)
& $\neg \text{state}$ when $e \setminus \setminus x:\text{state}@loc(e) \setminus \setminus x \gg a$
& $\neg e$ receives a
& state after $e \setminus \setminus x:\text{state}@loc(e) \setminus \setminus x \gg a$

clarification:

$\text{es-copies}(es;e;x)$

$\equiv_{\text{def}} \exists a:\text{Atom1}.$
($\text{es-atom}(es;\text{es-loc}(es;e);a)$
 $\Rightarrow \text{es-when}(es;x;\text{es-init}(es;e)):\text{es-vartype}(es;\text{es-loc}(es;e);x) \gg a$)
& $\neg \text{es-state-when-without}(es;e;x):\text{es-state-without}(es;\text{es-loc}(es;e);x) \gg a$
& $\neg \text{es-rcv-atom}(es;e;a)$
& $\text{es-state-after-without}(es;e;x):\text{es-state-without}(es;\text{es-loc}(es;e);x) \gg a$