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1 MACHINE
2   Generic
3 SEES
4   GenericCtx
5 VARIABLES  $t, x_p, x_s$ 
6 INVARIANTS
7    $inv1: t \in RRealPlus$ 
8    $inv2: x_p \in RReal \leftrightarrow S$ 
9    $inv3: Closed2Closed(Rzero, t) \subseteq dom(x_p)$ 
10   $inv4: x_s \in STATES$ 
11 EVENTS
12 INITIALISATION
13 THEN
14    $act1: t := Rzero$ 
15    $act2: x_p := \{Rzero\} \rightarrow S$ 
16    $act3: x_s := STATES$ 
17 END
18
19 Transition
20 ANY  $s$ 
21 WHERE
22    $grd1: s \in \mathbb{P}1(STATES)$ 
23 THEN
24    $act1: x_s := s$ 
25 END
26
27 Sense
28 ANY  $s, p$ 
29 WHERE
30    $grd1: s \in \mathbb{P}1(STATES)$ 
31    $grd2: p \in \mathbb{P}(STATES \times RReal \times S)$ 
32    $grd3: (x_s \mapsto t \mapsto x_p(t)) \in p$ 
33 THEN
34    $act1: x_s := s$ 
35 END
36
37 Behave
38 ANY  $tp, e, Inv$ 
39 WHERE
40    $grd0: tp \in RRealPlus \wedge t \mapsto tp \in lt$ 
41    $grd1: e \in DE(S)$ 
42    $grd2: Solvable(Closed2Closed(t, tp), e)$ 
43    $grd3: Inv \subseteq S$ 
44    $grd4: x_p(t) \in Inv$ 
45 THEN
46    $act1: t, x_p :| x_p' \in RReal \leftrightarrow S \wedge t' = tp \wedge Closed2Closed(Rzero, t') \subseteq dom(x_p') \wedge CBAPsolutionOf(t, t', x_p, x_p', e, Inv)$ 
47 END
48
49 Actuate
50 ANY  $tp, e, s, Inv$ 
51 WHERE
52    $grd0: tp \in RRealPlus \wedge t \mapsto tp \in lt$ 
53    $grd1: e \in DE(S)$ 
54    $grd2: Solvable(Closed2Closed(t, tp), e)$ 
55    $grd3: s \subseteq STATES$ 
56    $grd4: x_s \in s$ 
57    $grd5: Inv \subseteq S$ 
58    $grd6: x_p(t) \in Inv$ 
59 THEN
60    $act1: t, x_p :| x_p' \in RReal \leftrightarrow S \wedge t' = tp \wedge Closed2Closed(Rzero, t') \subseteq dom(x_p') \wedge CBAPsolutionOf(t, t', x_p, x_p', e, Inv)$ 
61 END
62
63 END

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