

```

1 MACHINE
2   StateSystem
3 REFINES
4   System
5 SEES
6   StateSystemCtx
7 VARIABLES  $t, x_p, x_s$ 
8 INVARIANTS
9    $inv1: x_s \in STATES$ 
10 EVENTS
11   INITIALISATION
12   THEN
13      $act1: t := Rzero$ 
14      $act2: x_p \in RRealPlus \rightarrow S$ 
15      $act3: x_s \in STATES$ 
16   END
17
18   Progress
19 REFINES Progress
20 THEN
21    $act1: t:| t' \in RRealPlus \wedge (t \mapsto t' \in lt)$ 
22 END
23
24   Behave
25 REFINES Behave
26 ANY  $e$ 
27 WHERE
28    $grd1: e \in DE(S)$ 
29    $grd2: Solvable(Closed2Infinity(t), e)$ 
30 THEN
31    $act1: x_p:| x_{p'} \in RRealPlus \rightarrow S \wedge AppendSolutionBAP(e, RRealPlus, Closed2Open(Rzero, t), Closed2Infinity(t), x_p, x_{p'})$ 
32 END
33
34   Transition
35 ANY  $s$ 
36 WHERE
37    $grd1: s \in \mathbb{P}1(STATES)$ 
38 THEN
39    $act1: x_s \in s$ 
40 END
41
42 END

```