1 ─────────────── MODULE *CJupiterH* ───────────────

CJupiter with a history of all list states across the system.

5 EXTENDS *CJupiter*

6 ├──

7 VARIABLE *list*

8 $varsH \triangleq \langle vars,\ list \rangle$

10 $TypeOKH \triangleq TypeOK \wedge (list \subseteq List)$

11 ├──

12 $InitH \triangleq Init \wedge list = \{InitState\}$

14 $DoH(c) \triangleq Do(c) \wedge list' = list \cup \{state'[c]\}$

16 $RevH(c) \triangleq Rev(c) \wedge list' = list \cup \{state'[c]\}$

18 $SRevH \triangleq SRev \wedge list' = list \cup \{state'[Server]\}$

19 ├──

20 $NextH \triangleq$
21     $\vee \exists c \in Client : DoH(c) \vee RevH(c)$
22     $\vee SRevH$

24 $FairnessH \triangleq$
25     $\mathrm{WF}_{varsH}(SRevH \vee \exists c \in Client : RevH(c))$

27 $SpecH \triangleq InitH \wedge \square[NextH]_{varsH}\ \wedge FairenessH$

28 ├──

29 $WLSpec \triangleq$ the weak list specification
30     $Comm(Cop)!EmptyChannel$
31         $\Rightarrow \forall\, l1,\ l2 \in list :$
32             $\wedge Injective(l1)$
33             $\wedge Injective(l2)$
34             $\wedge Compatible(l1,\ l2)$

36 THEOREM $SpecH \Rightarrow WLSpec$

37 └──

\ * Modification History
\ * Last modified *Mon Dec* 31 18:58:29 *CST* 2018 by *hengxin*
\ * Created *Tue Oct* 09 09:28:48 *CST* 2018 by *hengxin*

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