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— MODULE XJupiterExtended -
XJupiter extended with serial views. This is used to show that XJupiter implements CJupiter.
EXTENDS XJupiter, JupiterSerial
VARIABLES Simulate the behavior of propagating original operations in CJupiter.
    cincoming CJ, cincoming for CJupiter which contains original operations
    sincomingCJ
                      (not used)
commCJVars \triangleq \langle cincomingCJ, sincomingCJ \rangle
varsEx \stackrel{\triangle}{=} \langle commCJVars, serialVars, vars \rangle
commCJ \triangleq INSTANCE \ CSComm \ WITH \ Msg \leftarrow Seq(Cop),
                       cincoming \leftarrow cincomingCJ, sincoming \leftarrow sincomingCJ
TypeOKEx \triangleq
     \land TypeOK
     \land TypeOKSerial
     \land commCJ ! TypeOK
InitEx \triangleq
     \land Init
     \land \ \mathit{InitSerial}
     \land commCJ!Init
DoEx(c) \triangleq
       \wedge Do(c)
       \wedge DoSerial(c)
       ∧ UNCHANGED commCJVars
RevEx(c) \triangleq
     \wedge Rev(c)
     \land RevSerial(c)
     \wedge commCJ! CRev(c)
SRevEx \triangleq
     \land SRev
     \land \quad SRevSerial
     \wedge LET cop \stackrel{\triangle}{=} Head(sincoming)
         IN commCJ!SSendSame(ClientOf(cop), cop)
     \land UNCHANGED sincomingCJ
NextEx \triangleq
     \forall \exists c \in Client : DoEx(c) \lor RevEx(c)
     \vee SRevEx
FairnessEx \triangleq
    WF_{varsEx}(SRevEx \lor \exists c \in Client : RevEx(c))
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 $SpecEx \triangleq InitEx \land \Box [NextEx]_{varsEx} \land FairnessEx$