

MODULE <i>CausalNetwork</i>
EXTENDS <i>Network, Naturals</i>
VARIABLES <i>vc</i>
$vector \triangleq [Replica \rightarrow Nat]$ $initvector \triangleq [r \in Replica \mapsto 0]$
$CInit \triangleq \wedge NInit$ $\wedge vc = [r \in Replica \mapsto initvector]$
$CBroadcast(r, m) \triangleq \wedge NBroadcast(r, m)$ $\wedge vc' = [vc \text{ EXCEPT } ![r][r] = @ + 1]$
$CDeliver(r) \triangleq$ $\wedge incoming[r] \neq EmptyBag$ $\wedge \exists m \in BagToSet(incoming[r]) :$ $\wedge \forall s \in Replica :$ $\vee m.vc[s] \leq vc[r][s]$ $\vee s = m.r$ $\wedge m.vc[m.r] \geq vc[r][m.r]$ $\wedge vc' = [vc \text{ EXCEPT } ![r][m.r] = m.vc[m.r]]$ $\wedge msg' = m$ $\wedge MDeliver(r, m)$ $\wedge \text{UNCHANGED } \langle incoming \rangle$
\ * Modification History \ * Last modified <i>Mon Jun 03 15:49:10 CST 2019</i> by <i>xhdn</i> \ * Last modified <i>Mon May 06 16:07:03 CST 2019</i> by <i>jjwellin</i> \ * Created <i>Wed Mar 27 20:03:44 CST 2019</i> by <i>jjwellin</i>