

VARIABLES *copss* *copss*[*r*]: the set of context-based operations maintained at replica *r*

$$\begin{aligned} \text{Perform}(r, \text{cop}) &\triangleq \text{LET } x\text{form} \triangleq x\text{Form}(r, \text{cop}) \quad x\text{form} : [x\text{cop}, x\text{copss}] \\ &\quad \text{IN} \quad \wedge \text{copss}' = [\text{copss} \text{ EXCEPT } ![r] = x\text{form}.x\text{copss}] \\ &\quad \wedge \text{apply } x\text{form}.x\text{cop}.op \text{ to } list[r] \end{aligned}$$

$$\begin{aligned} \text{Do}(c, op) &\triangleq \text{LET } cop \triangleq [op \mapsto op, oid \mapsto [c \mapsto c, seq \mapsto cseq[c]], ctx \mapsto ds[c]] \\ &\quad \text{IN} \quad \wedge \text{copss} = [\text{copss} \text{ EXCEPT } ![c] = @ \cup \{cop\}] \\ &\quad \wedge \text{apply } op \text{ to } list[c]; \text{ send } cop \text{ to the Server} \end{aligned}$$

$$\text{Rev}(c, cop) \triangleq \text{Perform}(c, cop)$$

$$\begin{aligned} \text{SRev}(cop) &\triangleq \wedge \text{Perform}(\text{Server}, cop) \\ &\quad \wedge \text{broadcast } cop \text{ to clients other than } ClientOf(cop) \end{aligned}$$