

$so(oid1, oid2, sv) \triangleq$ Is $oid1$ totally ordered before $oid2$ according to sv ?

LET $pos1 \triangleq FirstIndexOfElementSafe(sv, oid1)$ 0 if $oid1$ is not in sv

$pos2 \triangleq FirstIndexOfElementSafe(sv, oid2)$ 0 if $oid2$ is not in sv

IN IF $pos1 \neq 0 \wedge pos2 \neq 0$ CASE (1): both have been at the server

THEN $pos1 < pos2$ using the order they reach the server

ELSE IF $pos1 = 0 \wedge pos2 = 0$ CASE (2): none have been at the server

THEN $oid1.seq < oid2.seq$ using the order they are generated

ELSE $pos1 \neq 0$ CASE (3): the one has been at the server is ahead