

## **es-is-alive**<sup>11,40</sup>

$\forall es:ES, Fail:AbsInterface(Top), A:Type, X:AbsInterface(A), e:E.$   
 $(\uparrow(e \in_b \text{alive}(X))) \iff ((\uparrow(e \in_b X)) \& (\neg(\exists e':E. ((e' <_{loc} e) \& (\uparrow(e' \in_b Fail))))))$