

l_before-es-interval^{11,40}

$\forall es:\text{event_system}\{i:l\}, e,e',a,b:\text{es-E}(es).$
 $l_{\text{before}}(a; b; [e, e']; \text{es-E}(es))$
 $\iff (\text{es-locl}(es; a; b) \wedge \text{es-le}(es; e; a) \wedge \text{es-le}(es; b; e'))$