———————————————— MODULE $SDRAN$ ————————————————

EXTENDS API, TLC

LOCAL INSTANCE $Sequences$

LOCAL INSTANCE $FiniteSets$

CONSTANT $TopoNodes$

LOCAL $Topo$ $\triangleq$ INSTANCE $Topo$ WITH $Nodes \leftarrow TopoNodes$

CONSTANT $E2TNodes$

LOCAL $E2T$ $\triangleq$ INSTANCE $E2T$ WITH $Nodes \leftarrow E2TNodes$

CONSTANT $E2Nodes$

LOCAL $E2Node$ $\triangleq$ INSTANCE $E2Node$ WITH $Nodes \leftarrow E2Nodes$

CONSTANT $xApps$

LOCAL $xApp(app, nodes)$ $\triangleq$ INSTANCE $xApp$ WITH $App \leftarrow app$, $Nodes \leftarrow nodes$

RECURSIVE $SetToSeq(\_)$
LOCAL $SetToSeq(S)$ $\triangleq$
   IF $Cardinality(S) = 0$ THEN $\langle\rangle$
    ELSE
      LET
        x $\triangleq$ CHOOSE $x \in S$: TRUE
      IN
        $\langle x\rangle \circ SetToSeq(S \setminus \{x\})$

LOCAL $xAppVars$ $\triangleq$ $SetToSeq(\{app \in$ DOMAIN $xApps : xApp(app, xApps[app])!vars\})$

$Init$ $\triangleq$
   $\wedge API!E2AP!Init$
   $\wedge API!E2T!Init$
   $\wedge API!Topo!Init$
   $\wedge Topo!Init$
   $\wedge E2T!Init$
   $\wedge E2Node!Init$
   $\wedge \forall app \in$ DOMAIN $xApps : xApp(app, xApps[app])!Init$

$Next$ $\triangleq$
   $\vee \wedge API!E2AP!Next$
   $\wedge$ UNCHANGED $\langle e2tApiVars, topoApiVars\rangle$
   $\vee \wedge API!E2T!Next$
   $\wedge$ UNCHANGED $\langle e2apApiVars, topoApiVars\rangle$
   $\vee \wedge API!Topo!Next$

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$\wedge$ UNCHANGED $\langle e2apApiVars,\ e2tApiVars \rangle$
$\vee\ Topo\,!\,Next$
$\vee\ E2T\,!\,Next$
$\vee\ E2Node\,!\,Next$
$\vee\ \exists\ app \in$ DOMAIN $xApps : xApp(app,\ xApps[app])\,!\,Next$