

MODULE <i>E2T</i>
EXTENDS <i>API</i> LOCAL INSTANCE <i>Naturals</i> LOCAL INSTANCE <i>Sequences</i> LOCAL INSTANCE <i>FiniteSets</i> LOCAL INSTANCE <i>TLC</i> CONSTANT <i>Nodes</i> ASSUME $\wedge IsFiniteSet(Nodes)$ $\wedge \forall n \in Nodes : n \in \text{STRING}$
MODULE <i>NB</i>
$HandleSubscribeRequest(c, m) \triangleq$ $\wedge API!E2T!Server!Receive(c)$ $\wedge API!E2T!Server!Reply(c, [type \mapsto API!E2T!Protocol.SubscribeResponse])$ $\wedge \text{UNCHANGED } \langle \rangle$ $HandleUnsubscribeRequest(c, m) \triangleq$ $\wedge API!E2T!Server!Receive(c)$ $\wedge API!E2T!Server!Reply(c, [type \mapsto API!E2T!Protocol.UnsubscribeResponse])$ $\wedge \text{UNCHANGED } \langle \rangle$ $HandleMessage(c, m) \triangleq$ $\wedge \vee \wedge m.type = API!E2T!Protocol.SubscribeRequest$ $\wedge HandleSubscribeRequest(c, m)$ $\wedge \vee \wedge m.type = API!E2T!Protocol.UnsubscribeRequest$ $\wedge HandleUnsubscribeRequest(c, m)$ $\wedge \text{UNCHANGED } \langle \rangle$ $Handle(c) \triangleq API!E2T!Server!Handle(c, HandleMessage)$ $Servers \triangleq API!E2T!Servers$ $Connections \triangleq API!E2T!Connections$ $Serve(s) \triangleq API!E2T!Server!Start(s)$ $Stop(s) \triangleq API!E2T!Server!Stop(s)$ $Init \triangleq \text{TRUE}$ $Next \triangleq$ $\vee \exists s \in Nodes : Serve(s)$ $\vee \exists s \in Servers : Stop(s)$

$$\forall \exists c \in \text{Connections} : \text{Handle}(c)$$

LOCAL $NB \triangleq$ INSTANCE NB

MODULE SB

$$\begin{aligned} \text{HandleE2Setup}(c, m) &\triangleq \\ &\wedge \text{API!E2AP!Server!Receive}(c) \\ &\wedge \text{API!E2AP!Server!Reply}(c, [\text{type} \mapsto \text{API!E2AP!Protocol.E2SetupResponse}]) \\ &\wedge \text{UNCHANGED } \langle \rangle \end{aligned}$$

$$\begin{aligned} \text{HandleMessage}(c, m) &\triangleq \\ &\wedge \vee \wedge m.\text{type} = \text{API!E2AP!Protocol.E2Setup} \\ &\quad \wedge \text{HandleE2Setup}(c, m) \\ &\wedge \text{UNCHANGED } \langle \rangle \end{aligned}$$

$$\text{Handle}(c) \triangleq \text{API!E2AP!Server!Handle}(c, \text{HandleMessage})$$

$$\text{Servers} \triangleq \text{API!E2AP!Servers}$$

$$\text{Connections} \triangleq \text{API!E2AP!Connections}$$

$$\text{Serve}(s) \triangleq \text{API!E2AP!Server!Start}(s)$$

$$\text{Stop}(s) \triangleq \text{API!E2AP!Server!Stop}(s)$$

$$\text{Init} \triangleq \text{TRUE}$$

$$\begin{aligned} \text{Next} &\triangleq \\ &\vee \exists s \in \text{Nodes} : \text{Serve}(s) \\ &\vee \exists s \in \text{Servers} : \text{Stop}(s) \\ &\vee \exists c \in \text{Connections} : \text{Handle}(c) \end{aligned}$$

LOCAL $SB \triangleq$ INSTANCE SB

$$\begin{aligned} \text{Init} &\triangleq \\ &\wedge \text{SB!Init} \\ &\wedge \text{NB!Init} \end{aligned}$$

$$\begin{aligned} \text{Next} &\triangleq \\ &\vee \text{SB!Next} \\ &\vee \text{NB!Next} \end{aligned}$$

\ * Modification History

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