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┌────────────────────────── MODULE xApp ───────────────────────────┐
EXTENDS API

LOCAL INSTANCE Naturals

LOCAL INSTANCE Sequences

LOCAL INSTANCE FiniteSets

CONSTANT App

ASSUME App ∈ STRING

CONSTANT Nodes

ASSUME  $\wedge IsFiniteSet(Nodes)$ 
       $\wedge \forall n \in Nodes : n \in \text{STRING}$ 

┌────────────────────────── MODULE Store ───────────────────────────┐
  Init  $\triangleq$  TRUE

  Next  $\triangleq$  FALSE

└──────────────────────────┘

LOCAL Store  $\triangleq$  INSTANCE Store

┌────────────────────────── MODULE SB ───────────────────────────┐
  SendSubscribeRequest(c)  $\triangleq$ 
     $\wedge API!E2T!Client!Send!SubscribeRequest(c, [foo \mapsto \text{"bar"}])$ 

  HandleSubscribeResponse(c, m)  $\triangleq$ 
     $\wedge \text{UNCHANGED } \langle \rangle$ 

  SendUnsubscribeRequest(c)  $\triangleq$ 
     $\wedge API!E2T!Client!Send!UnsubscribeRequest(c, [foo \mapsto \text{"bar"}])$ 

  HandleUnsubscribeResponse(c, m)  $\triangleq$ 
     $\wedge \text{UNCHANGED } \langle \rangle$ 

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

  Next  $\triangleq$ 
     $\vee \exists n \in Nodes, s \in API!E2T!Servers : API!E2T!Client!Connect(n, s)$ 
     $\vee \exists c \in API!E2T!Connections : API!E2T!Client!Disconnect(c)$ 
     $\vee \exists c \in API!E2T!Connections :$ 
       $\vee SendSubscribeRequest(c)$ 

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$$\begin{aligned} &\vee \textit{SendUnsubscribeRequest}(c) \\ &\vee \textit{API!E2T!Client!Receive!SubscribeResponse}(c, \textit{HandleSubscribeResponse}) \\ &\vee \textit{API!E2T!Client!Receive!UnsubscribeResponse}(c, \textit{HandleUnsubscribeResponse}) \end{aligned}$$


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LOCAL  $SB \triangleq$  INSTANCE  $SB$

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$\textit{Init} \triangleq$   
 $\wedge \textit{SB!Init}$   
 $\wedge \textit{Store!Init}$

$\textit{Next} \triangleq$   
 $\vee \textit{SB!Next}$   
 $\vee \textit{Store!Next}$

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\ \* Modification History  
\ \* Last modified *Fri Aug 13 15:58:57 PDT 2021* by *jordanhalterman*  
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