
MODULE *Messaging*

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LOCAL INSTANCE Naturals

LOCAL INSTANCE TLC

VARIABLE messages

LOCAL WithMessage(m, msgs)  $\triangleq$ 
  IF m  $\in$  DOMAIN msgs THEN
    [msgs EXCEPT ![m] = msgs[m] + 1]
  ELSE
    msgs @@ (m :> 1)

LOCAL WithoutMessage(m, msgs)  $\triangleq$ 
  IF m  $\in$  DOMAIN msgs THEN
    [msgs EXCEPT ![m] = msgs[m] - 1]
  ELSE
    msgs

Send(m)  $\triangleq$ 
   $\wedge$  messages' = WithMessage(m, messages)

Discard(m)  $\triangleq$ 
   $\wedge$  messages' = WithoutMessage(m, messages)

Handle(h(_))  $\triangleq$ 
   $\wedge \exists m \in \text{messages} : h(m)$ 

Receive(request)  $\triangleq$ 
   $\wedge$  messages' = WithoutMessage(request, messages)

Reply(response)  $\triangleq$ 
   $\wedge$  messages' = WithMessage(response, messages')

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\ * Modification History
\ * Last modified Mon Sep 13 16:41:19 PDT 2021 by jordanhalterman
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