## EXTENDS Naturals CONSTANT AddressSpaceSize, DataSpace

 $\textit{AddressSpace} \ \triangleq \ \{\textit{addr} \in \textit{Nat}: \textit{addr} < \textit{AddressSpaceSize}\}$ 

 $IsAddress(addr) \stackrel{\triangle}{=} addr \in AddressSpace$ 

 $MessageSpace \stackrel{\triangle}{=} [from : AddressSpace, to : AddressSpace, data : DataSpace]$ 

 $|\mathit{MessageSpace}\>|\> = |\mathit{MessageSpace}\>|\>^2 * |\mathit{DataSpace}\>|$ 

 $\mathit{IsMessage}(\mathit{msg}) \, \triangleq \, \mathit{msg} \in \mathit{MessageSpace}$