

	MODULE <i>Gateway</i>	
EXTENDS <i>Node, Sequences, Natural</i> VARIABLE <i>Gateway</i> <i>GwID</i> \triangleq 2 <i>GatewayNode</i> \triangleq [<i>GwNode</i> \mapsto <i>Node</i> (<i>GwID</i>), <i>GwReceivedEqData</i> \mapsto BOOLEAN , <i>GwRelayedEqData</i> \mapsto BOOLEAN] <i>ActiveModeInvariant</i> \triangleq <i>Gw.GwNode.NMode</i> = "Active" <i>NodeIDs</i> \triangleq 1 .. 6 <i>Nodes</i> \triangleq [<i>n</i> \in <i>NodeIDs</i> \mapsto <i>Node</i> (<i>n</i>)] <i>AlwaysConnectedInvariant</i> \triangleq $\wedge \exists n \in \text{DOMAIN } Nodes :$ <i>Nodes</i> [<i>n</i>]. <i>NodeType</i> = <i>Sensor</i> \wedge <i>Nodes</i> [<i>n</i>]. <i>NCon</i> = "Connected" $\wedge \exists n \in \text{DOMAIN } Nodes :$ <i>Nodes</i> [<i>n</i>]. <i>NodeType</i> = <i>Actuator</i> \wedge <i>Nodes</i> [<i>n</i>]. <i>NCon</i> = "Connected" $\wedge \exists n \in \text{DOMAIN } Nodes :$ <i>Nodes</i> [<i>n</i>]. <i>NodeType</i> = <i>BaseStation</i> \wedge <i>Nodes</i> [<i>n</i>]. <i>NCon</i> = "Connected"		