
MODULE *Mastership*

INSTANCE *Naturals*

INSTANCE *FiniteSets*

INSTANCE *Sequences*

INSTANCE *TLC*

An empty constant
CONSTANT *Nil*

The set of possible master nodes
CONSTANT *Node*

A record of target masterships
VARIABLE *mastership*

$TypeOK \triangleq$
 $\wedge mastership.term \in Nat$
 $\wedge mastership.master \neq Nil \Rightarrow mastership.master \in Node$

This section models *mastership* for the configuration service.

Mastership is used primarily to track the lifecycle of individual configuration targets and react to state changes on the southbound. Each target is assigned a master from the *Node* set, and masters can be unset when the target disconnects.

Set node n as the master for target t
 $SetMaster(n) \triangleq$
 $\wedge mastership.master \neq n$
 $\wedge mastership' = [mastership \text{ EXCEPT } !.term = mastership.term + 1,$
 $!.master = n]$

$UnsetMaster \triangleq$
 $\wedge mastership.master \neq Nil$
 $\wedge mastership' = [mastership \text{ EXCEPT } !.master = Nil]$
