```
machine Mach_Part_Trans
//* ************************************************
//    The Event-B model of ARINC 653 Part 1
//    Created by Yongwang Zhao ( zhaoyongwang@gmail.com)
//    National Key Laboratory of Software Development Environment (NLSDE)
//    School of Computer and Engineering, Beihang University, Beijing, China
//    ************************************************/
//define the partition mode transition of ARINC653

sees Ctx_PartProc_Trans

variables
    partition_mode
//partv

invariants
    @inv_part_mode partition_mode ∈ PARTITIONS → PARTITION_MODES
//@inv_part partv∈PARTITIONS

events
  event INITIALISATION
```

```
  then
    @act01 partition_mode :| partition_mode'∈PARTITIONS → {PM_COLD_START,PM_WARM_START}
    //@act01 partition_mode ≔ PARTITIONS × {PM_COLD_START}
    //@act01 partition_mode :| ∀p·(p∈PARTITIONS⇒partition_mode'(p)∈ {PM_COLD_START,PM_WARM_START})

  end

  event partition_mode_transition
    any part newm
    where
        @grd01 part ∈ PARTITIONS
        @grd02 newm ∈ PARTITION_MODES
        @grd03 partition_mode(part) = PM_COLD_START ⇒ newm = PM_COLD_START ∨ newm = PM_IDLE ∨
newm = PM_NORMAL
        @grd04 partition_mode(part) = PM_WARM_START ⇒ newm = PM_WARM_START ∨ newm =
PM_COLD_START ∨ newm = PM_IDLE ∨ newm = PM_NORMAL
        @grd05 partition_mode(part) = PM_IDLE ⇒ newm = PM_WARM_START ∨ newm =
PM_COLD_START
        @grd06 partition_mode(part) = PM_NORMAL ⇒ newm = PM_WARM_START ∨ newm =
PM_COLD_START ∨ newm = PM_IDLE
    then
```

```
        @act01 partition_mode(part) := newm
    end

end
```