THEORY EvtBPO

IMPORT THEORY EvtBStruc

TYPE PARAMETERS $STATE, EVENT$

OPERATORS

Mch_THM *predicate* $(m : Machine(STATE, EVENT))$

direct definition

$Inv(m) \subseteq Thm(m)$

Mch_INV_Init *predicate* $(m : Machine(STATE, EVENT))$

direct definition

$AP(m) \subseteq Inv(m)$

Mch_INV_One_Ev *predicate* $(m : Machine(STATE, EVENT), e : EVENT)$

well-definedness $e \in Progress(m)$

direct definition

$BAP(m)[\{e\}][Inv(m) \cap Grd(m)[\{e\}]] \subseteq Inv(m)$

Mch_INV *predicate* $(m : Machine(STATE, EVENT))$

direct definition

$Mch\_INV\_Init(m) \wedge$
$(\forall e \cdot e \in Progress(m) \Rightarrow Mch\_INV\_One\_Ev(m, e))$

Mch_FIS_Init *predicate* $(m : Machine(STATE, EVENT))$

direct definition

$Inv(m) \cap AP(m) \neq \emptyset$

Mch_FIS_One_Ev *predicate* $(m : Machine(STATE, EVENT), e : EVENT)$

well-definedness $e \in Progress(m)$

direct definition

$Inv(m) \cap Grd(m)[\{e\}] \subseteq dom(BAP(m)[\{e\}])$

Mch_FIS *predicate* $(m : Machine(STATE, EVENT))$

direct definition

$Mch\_FIS\_Init(m) \wedge$
$(\forall e \cdot e \in Progress(m) \Rightarrow Mch\_FIS\_One\_Ev(m, e))$

Mch_VARIANT_One_Ev *predicate* $(m : Machine(STATE, EVENT), e : EVENT, s : STATE)$

well-definedness $Variant\_WellCons(m), Mch\_INV\_One\_Ev(m, e), e \in Progress(m), e \in Convergent(m), s \in Inv(m), s \in Grd(m)[\{e\}]$

direct definition

$\forall sp \cdot sp \in BAP(m)[\{e\}][\{s\}]$
$\Rightarrow (Inv(m) \lhd Variant(m))(s) > (Inv(m) \lhd Variant(m))(sp)$

Mch_VARIANT *predicate* $(m : Machine(STATE, EVENT))$

well-definedness $Variant\_WellCons(m), Mch\_INV(m), BAP\_WellCons(m), Tag\_Event\_WellCons(m), Event\_WellCons(m)$

direct definition

$\forall e, s \cdot e \in Event(m) \wedge e \in Convergent(m) \wedge s \in State(m) \wedge s \in Inv(m) \wedge$
$s \in Grd(m)[\{e\}] \Rightarrow Mch\_VARIANT\_One\_Ev(m, e, s)$

Mch_NAT_One_Ev *predicate* $(m : Machine(STATE, EVENT), e : EVENT)$

well-definedness $e \in Convergent(m)$

direct definition

$Variant(m)[Inv(m) \cap Grd(m)[\{e\}]] \subseteq \mathbb{N}$

Mch_NAT *predicate* $(m : Machine(STATE, EVENT))$

direct definition

$Variant(m)[Inv(m) \cap Grd(m)[Convergent(m)]] \subseteq \mathbb{N}$

check_Machine_Consistency *predicate* $(m : Machine(STATE, EVENT))$

well-definedness $Machine\_WellCons(m)$

direct definition

$Mch\_THM(m) \wedge$
$Mch\_INV(m) \wedge$
$Mch\_FIS(m) \wedge$
$Mch\_NAT(m) \wedge$
$Mch\_VARIANT(m)$

END