event_system[11,40]

event_system{i:l}
$\equiv_{\text{def}}$ E:Type
$\times$ (eq:EqDecider(E)
$\times$ $pred$?:(E→(?E))
$\times$ $info$:(E→((:Id × Id) + (:(:IdLnk × E) × Id)))
$\times$ $oaxioms$:EOrderAxioms(E;$pred$?;$info$)
$\times$ T:(Id→Id→Type)
$\times$ V:(Id→Id→Type)
$\times$ M:(IdLnk→Id→Type)
$\times$ $init$:(i:Id→EState(($T(i)$)))
$\times$ $Trans$:(i:Id→k:Knd→kindcase(k; a.($V(i,a)$); l,t.($M(l,t)$))→EState(($T(i)$))→EState
(($T(i)$)))
$\times$ val:(e:E→kindcase(kind(e); a.(V(loc(e),a)); l,t.($M(l,t)$)))
$\times$ $Send$:(i:Id→k:Knd→kindcase(k; a.($V(i,a)$); l,t.($M(l,t)$))→(x:Id→$T(i,x)$)→
(Msg(M) List))
$\times$ $Choose$:(i,a:Id→ ℕ →(x:Id→$T(i,x)$)→(?($V(i,a)$)))
$\times$ $time$:(E→rationals)
$\times$ va:val-axiom(E;V;M;$info$;$pred$?;
$init$;$Trans$;
$Choose$;$Send$;val;$time$)
$\times$ $opres$:($\forall e,e'$:E. $e < e' \Rightarrow$ qle(($time(e)$); ($time(e')$)))
$\times$ $discrete$:(Id→Id→ 𝔹)
$\times$ ($consts$:($\forall i,x$:Id.
($\uparrow$($discrete(i,x)$))
$\Rightarrow$ (constant_function(($init(i,x)$); rationals; ($T(i,x)$))
$\wedge$ ($\forall k$:Knd, v:kindcase(k; a.($V(i,a)$); l,t.($M(l,t)$)), s:EState(($T(i)$)).
constant_function(($s(x)$); rationals; ($T(i,x)$))
$\Rightarrow$ constant_function(($Trans(i,k,v,s,x)$); rationals; ($T(i,x)$))))))
$\times$ top))

clarification:

event_system{i:l}
$\equiv_{\text{def}}$ E:Type{i}
$\times$ (eq:EqDecider(E)
$\times$ $pred$?:(E→(E + Unit))
$\times$ $info$:(E→((:Id × Id) + (:(:IdLnk × E) × Id)))
$\times$ $oaxioms$:EOrderAxioms{i:l}
(E; $pred$?; $info$)
$\times$ T:(Id→Id→Type{i})
$\times$ V:(Id→Id→Type{i})
$\times$ M:(IdLnk→Id→Type{i})

$\times$ $init$:(i:Id$\rightarrow$EState(($T(i)$)))
$\times$ $Trans$:(i:Id$\rightarrow k$:Knd$\rightarrow$kindcase(k; a.($V(i,a)$); l,t.($M(l,t)$))$\rightarrow$EState(($T(i)$))$\rightarrow$EState
(($T(i)$)))
$\times$ val:(e:$E\rightarrow$kindcase(kind($info$;e); a.(V(loc($info$;e),a)); l,t.($M(l,t)$))))
$\times$ $Send$:(i:Id$\rightarrow k$:Knd$\rightarrow$kindcase(k; a.($V(i,a)$); l,t.($M(l,t)$))$\rightarrow$(x:Id$\rightarrow T(i,x)$)$\rightarrow$
(Msg(M) List))
$\times$ $Choose$:(i:Id$\rightarrow a$:Id$\rightarrow \mathbb{N} \rightarrow$($x$:Id$\rightarrow T(i,x)$)$\rightarrow$(($V(i,a)$) + Unit))
$\times$ $time$:($E\rightarrow$rationals)
$\times$ va:val-axiom(E;V;M;$info$;$pred$?;
$init$;$Trans$;
$Choose$;$Send$;val;$time$)
$\times$ $opres$:($\forall e$:E, e':E. class(E;$pred$?;$info$;e;e') $\Rightarrow$ qle(($time(e)$); ($time(e')$))))
$\times$ $discrete$:(Id$\rightarrow$Id$\rightarrow \mathbb{B}$)
$\times$ ($consts$:($\forall i$:Id, x:Id.
($\uparrow$($discrete(i,x)$))
$\Rightarrow$ (constant_function(($init(i,x)$); rationals; ($T(i,x)$))
$\wedge$ ($\forall k$:Knd, v:kindcase(k; a.($V(i,a)$); l,t.($M(l,t)$)), s:EState(($T(i)$)).
constant_function(($s(x)$); rationals; ($T(i,x)$))
$\Rightarrow$ constant_function(($Trans(i,k,v,s,x)$); rationals; ($T(i,x)$))))))
$\times$ top))

http://www.nuprl.org/FDLcontent/p0_963683_/p69_113763_{event_system}.html