possible-world^{0,22}

PossibleWorld(D;w)
$\equiv_{\text{def}}$ FairFifo
& ($\forall i$, x:Id. vartype(i;x) $\subseteq \rho$ M(i).ds(x))
& ($\forall i$:Id, a:Action(i). $\neg$isnull(a) $\Rightarrow$ valtype(i;a) $\subseteq \rho$ M(i).da(kind(a)))
& ($\forall l$:IdLnk, tg:Id. (w.M(l,tg)) $\subseteq \rho$ M(source(l)).da(rcv(l,tg)))
& ($\forall i$, x:Id. M(i).init(x,s(i;0).x))
& ($\forall i$:Id, t:$\mathbb{N}$.
$\neg$isnull(a(i;t))
$\Rightarrow$ (islocal(kind(a(i;t)))
$\Rightarrow$ M(i).pre(act(kind(a(i;t))),λx.s(i;t).x,val(a(i;t))))
& ($\forall x$:Id. M(i).ef(kind(a(i;t)),x,λx.s(i;t).x,val(a(i;t)),s(i;t+1).x))
& ($\forall l$:IdLnk.
M(i).send(kind(a(i;t));l;λx.s(i;t).x;val(a(i;t));withlnk(l;m(i;t));i))
& ($\forall x$:Id. $\neg$M(i).frame(kind(a(i;t)) affects x) $\Rightarrow$ s(i;t).x = s(i;t+1).x)
& ($\forall l$:IdLnk, tg:Id.
$\neg$M(i).sframe(kind(a(i;t)) sends <l,tg>)
$\Rightarrow$ w-tagged(tg;onlnk(l;m(i;t))) = nil))
& ($\forall i$, a:Id, t:$\mathbb{N}$.
$\exists t'$:$\mathbb{N}$.
$t \leq t'$
& $\neg$isnull(a(i;t')) & kind(a(i;t')) = locl(a)
$\vee$ $\neg a$ declared in M(i)
$\vee$ unsolvable M(i).pre(a,λx.s(i;t').x))
& ($\forall i$:Id, t:$\mathbb{N}$.
$\neg$isnull(a(i;t))
$\Rightarrow$ ($\forall x$:Id. $\neg$M(i).aframe(kind(a(i;t)) affects x) $\Rightarrow$ s(i;t).x = s(i;t+1).x))
& ($\forall i$, x:Id, k:Knd. $\neg$M(i).rframe(k reads x) $\Rightarrow$ w-machine-independent(w;i;k;x))
& ($\forall i$:Id, t:$\mathbb{N}$.
$\neg$isnull(a(i;t))
$\Rightarrow$ ($\forall l$:IdLnk. $\neg$M(i).bframe(kind(a(i;t)) sends on l) $\Rightarrow$ onlnk(l;m(i;t)) = nil))

clarification:

possible-world{i:l}
(D; w)
$\equiv_{\text{def}}$ fair-fifo{i:l}
(w)
& ($\forall i$:Id, x:Id. w-vartype(w; i; x) $\subseteq \rho$ d-m(D; i).ds(x))
& ($\forall i$:Id, a:w-action(w; i).
$\neg$w-isnull(w; a) $\Rightarrow$ w-valtype(w; i; a) $\subseteq \rho$ d-m(D; i).da(w-kind(w; a)))
& ($\forall l$:IdLnk, tg:Id. (w.M(l,tg)) $\subseteq \rho$ d-m(D; source(l)).da(rcv(l,tg)))
& ($\forall i$:Id, x:Id. d-m(D; i).init(x,w-s(w; i; 0; x)))

& ($\forall i$:Id, t:$\mathbb{N}$.
¬w-isnull(w; w-a(w; i; t))
⇒ (islocal(w-kind(w; w-a(w; i; t)))
⇒ d-m(D; i).pre(act(w-kind(w; w-a(w; i; t))),
λx.w-s(w; i; t; x),w-val(w; w-a(w; i; t))))
& ($\forall x$:Id.
d-m(D; i).ef(w-kind(w; w-a(w; i; t)),
x,λx.w-s(w; i; t; x),w-val(w; w-a(w; i; t)),w-s(w; i; (t+1); x)))
& ($\forall l$:IdLnk.
d-m(D; i).send(w-kind(w; w-a(w; i; t));
l;λx.w-s(w; i; t; x);w-val(w; w-a(w; i; t));withlnk(l;w-m(w; i; t));i))
& ($\forall x$:Id.
¬d-m(D; i).frame(w-kind(w; w-a(w; i; t)) affects x)
⇒ w-s(w; i; t; x) = w-s(w; i; (t+1); x) ∈ d-m(D; i).ds(x))
& ($\forall l$:IdLnk, tg:Id.
¬d-m(D; i).sframe(w-kind(w; w-a(w; i; t)) sends <l,tg>)
⇒ w-tagged(tg;onlnk(l;w-m(w; i; t))) = nil ∈ w-Msg(w) List))
& ($\forall i$:Id, a:Id, t:$\mathbb{N}$.
$\exists t'$:$\mathbb{N}$.
$t \leq t'$
& ¬w-isnull(w; w-a(w; i; t')) & w-kind(w; w-a(w; i; t')) = locl(a) ∈ Knd
∨ ¬a declared in d-m(D; i)
∨ unsolvable d-m(D; i).pre(a,λx.w-s(w; i; t'; x)))
& ($\forall i$:Id, t:$\mathbb{N}$.
¬w-isnull(w; w-a(w; i; t))
⇒ ($\forall x$:Id.
¬d-m(D; i).aframe(w-kind(w; w-a(w; i; t)) affects x)
⇒ w-s(w; i; t; x) = w-s(w; i; (t+1); x) ∈ w-vartype(w; i; x)))
& ($\forall i$:Id, x:Id, k:Knd.
¬d-m(D; i).rframe(k reads x) ⇒ w-machine-independent(w;i;k;x))
& ($\forall i$:Id, t:$\mathbb{N}$.
¬w-isnull(w; w-a(w; i; t))
⇒ ($\forall l$:IdLnk.
¬d-m(D; i).bframe(w-kind(w; w-a(w; i; t)) sends on l)
⇒ onlnk(l;w-m(w; i; t)) = nil ∈ w-Msg(w) List))

http://www.cs.cornell.edu/Info/Projects/NuPrl/FDLcontent/p0_286125_/p51_100510_{possible-world}.html