R-FeasibleWitness[11,40]

R-FeasibleWitness{i:l}
(R; sv; av; dis; cl; fr; sfr; rfr; afr; bfr)
$\equiv_{\text{def}}$ case R of
Rnone => Rnone() = Rnone()
Rplus($left$,$right$)=>rec_1,rec_2.rec_1 & rec_2
Rinit(loc,T,x,v)=> cl(loc,<1, x>) = Rinit(loc;T;x;v)
& sv(x) = <T, v>
& dis(loc,x) = isl(v)
Rframe(loc,T,x,L)=> cl(loc,<2, x>) = Rframe(loc;T;x;L)
& ((sv(x)).1) = T
& fr(loc,x) = L
Rsframe(lnk,tag,L)=> cl(source(lnk),<3, lnk, tag>) = Rsframe(lnk;tag;L)
& sfr(lnk,tag) = L
Reffect(loc,ds,knd,T,x,f)=> cl(loc,<4, knd, x>) = Reffect(loc;ds;knd;T;x;f)
& isl(f) = isl((sv(x)).2)
& $\forall z \in$dom(ds). A=ds(z) $\Rightarrow$ ((sv(z)).1) = A & av(knd) = T
& (($\uparrow$isrcv(knd)) $\Rightarrow$ (loc = destination(lnk(knd))))
& ($knd \in fr$(loc,x))
& ($\forall z \in$fpf-domain(ds). ($knd \in rfr$(loc,z)))
& dis(loc,x) = isl(f)
& (($\uparrow$can-apply(afr(loc);knd)) $\Rightarrow$ ($x \in$ do-apply(afr(loc);knd)))
Rsends(ds,knd,T,l,dt,g)=> cl(source(l),<5, knd, l>) = Rsends(ds;knd;T;l;dt;g)
& (($\uparrow$isrcv(knd))
$\Rightarrow$ ((($\uparrow$lnk(knd) = l) $\Rightarrow$ (T = dt(tag(knd))?Void))
& destination(lnk(knd)) = source(l)))
& $\forall z \in$dom(ds). A=ds(z) $\Rightarrow$ ((sv(z)).1) = A
& av(knd) = T
& $\forall k \in$dom(lnk-decl(l;dt)). A=lnk-decl(l;dt)(k) $\Rightarrow$ av(k) = A
& Normal(dt)
& ($\forall tg \in$map($\lambda p.p.1$;g). ($knd \in sfr$(l,tg)))
& ($\forall z \in$fpf-domain(ds). ($knd \in rfr$(source(l),z)))
& (($\uparrow$can-apply(bfr(source(l));knd)) $\Rightarrow$ ($l \in$ do-apply(bfr(source(l));knd)))
Rpre(loc,ds,a,p,P)=> cl(loc,<6, a>) = Rpre(loc;ds;a;p;P)
& $\forall z \in$dom(ds). A=ds(z) $\Rightarrow$ ((sv(z)).1) = A
& av(locl(a)) = Outcome
& ($\forall z \in$fpf-domain(ds). (locl(a) $\in$ rfr(loc,z)))
Rkframe(loc,k,L)=> cl(loc,<7, k>) = Raframe(loc;k;L) & afr(loc,k) = (inl L)
Rksframe(loc,k,L)=> cl(loc,<8, k>) = Rbframe(loc;k;L) & bfr(loc,k) = (inl L)
Rrframe(loc,x,L)=> cl(loc,<9, x>) = Rrframe(loc;x;L) & rfr(loc,x) = L

clarification:

R-FeasibleWitness{i:l}
(R; sv; av; dis; cl; fr; sfr; rfr; afr; bfr)
$\equiv_{\text{def}}$ case R of
Rnone => Rnone() = Rnone() $\in$ es_realizer{i:l}
Rplus($left$,$right$)=>rec_1,rec_2.rec_1 & rec_2
Rinit(loc,T,x,v)=> cl(loc,<1, x>) = Rinit(loc;T;x;v) $\in$ es_realizer{i:l}
& sv(x) = <T, v> $\in$ (A:Type{i} $\times$ (A + ($\mathbb{Q}$ $\to A$)))
& dis(loc,x) = isl(v) $\in \mathbb{B}$
Rframe(loc,T,x,L)=> cl(loc,<2, x>) = Rframe(loc;T;x;L) $\in$ es_realizer{i:l}
& ((sv(x)).1) = T $\in$ Type{i}
& fr(loc,x) = L $\in$ (Knd List)
Rsframe(lnk,tag,L)=> cl(source(lnk),<3, lnk, tag>)
=
Rsframe(lnk;tag;L)
$\in$ es_realizer{i:l}
& sfr(lnk,tag) = L $\in$ (Knd List)
Reffect(loc,ds,knd,T,x,f)=> cl(loc,<4, knd, x>)
=
Reffect(loc;ds;knd;T;x;f)
$\in$ es_realizer{i:l}
& isl(f) = isl((sv(x)).2) $\in \mathbb{B}$
& IdIdDeq$\forall z{\in}$dom(ds). A=ds(z) $\Rightarrow$ ((sv(z)).1) = A $\in$ Type{i} & av(knd) = T $\in$ Type{i}
& (($\uparrow$isrcv(knd)) $\Rightarrow$ (loc = destination(lnk(knd)) $\in$ Id))
& (knd $\in$ fr(loc,x) $\in$ Knd)
& l_all(fpf-domain(ds);Id;z.(knd $\in$ rfr(loc,z) $\in$ Knd))
& dis(loc,x) = isl(f) $\in \mathbb{B}$
& (($\uparrow$can-apply(afr(loc);knd)) $\Rightarrow$ (x $\in$ do-apply(afr(loc);knd) $\in$ Id))
Rsends(ds,knd,T,l,dt,g)=> cl(source(l),<5, knd, l>)
=
Rsends(ds;knd;T;l;dt;g)
$\in$ es_realizer{i:l}
& (($\uparrow$isrcv(knd))
$\Rightarrow$ ((($\uparrow$lnk(knd) = l) $\Rightarrow$ (T = fpf-cap(dt;IdDeq;tag(knd);Void) $\in$ Type{i}))
& destination(lnk(knd)) = source(l) $\in$ Id))
& IdIdDeq$\forall z{\in}$dom(ds). A=ds(z) $\Rightarrow$ ((sv(z)).1) = A $\in$ Type{i}
& av(knd) = T $\in$ Type{i}
& KndKindDeq$\forall k{\in}$dom(lnk-decl(l;dt)). A=lnk-decl(l;dt)(k) $\Rightarrow$ av(k) = A $\in$ Type{i}
& normal-ds{i:l}
(dt)
& l_all(map($\lambda p.p.1$;g);Id;tg.(knd $\in$ sfr(l,tg) $\in$ Knd))
& l_all(fpf-domain(ds);Id;z.(knd $\in$ rfr(source(l),z) $\in$ Knd))
& (($\uparrow$can-apply(bfr(source(l));knd)) $\Rightarrow$ (l $\in$ do-apply(bfr(source(l));knd) $\in$ IdLnk))
Rpre(loc,ds,a,p,P)=> cl(loc,<6, a>) = Rpre(loc;ds;a;p;P) $\in$ es_realizer{i:l}
& IdIdDeq$\forall z{\in}$dom(ds). A=ds(z) $\Rightarrow$ ((sv(z)).1) = A $\in$ Type{i}
& av(locl(a)) = p-outcome(p) $\in$ Type{i}
& l_all(fpf-domain(ds);Id;z.(locl(a) $\in$ rfr(loc,z) $\in$ Knd))

Rkframe(loc,k,L)=> cl(loc,<7, k>) = Raframe(loc;k;L) ∈ es_realizer{i:l}
& afr(loc,k) = (inl L) ∈ ((Id List) + Top)
Rksframe(loc,k,L)=> cl(loc,<8, k>) = Rbframe(loc;k;L) ∈ es_realizer{i:l}
& bfr(loc,k) = (inl L) ∈ ((IdLnk List) + Top)
Rrframe(loc,x,L)=> cl(loc,<9, x>) = Rrframe(loc;x;L) ∈ es_realizer{i:l}
& rfr(loc,x) = L ∈ (Knd List)

http://www.nuprl.org/FDLcontent/p0_963683_/p76_545853_{R-FeasibleWitness}.html