update-antecedent[11,40]

update-antecedent{i:l}(es;Cmd;Sys;$Config$;u)
$\equiv_{\text{def}}$ ($\forall e$:{e:E(Sys)| $\uparrow$csupdate?($Sys(e)$)} . ($u(e) < e$))
& ($\forall e$:{e:E(Sys)| $\uparrow$csupdate?($Sys(e)$)} .
(($\uparrow$(($u(e)$) $\in_b$ Sys))
$\Rightarrow$ (valid-sys(es;$Config$;Sys;$u(e)$) & csupdate-cmds($Sys(e)$) = sys-cmds($Sys(u(e))$)))
& (($\uparrow$(($u(e)$) $\in_b$ $Config$))
$\Rightarrow$ (($\uparrow$ccsucc?($Config(u(e))$))
& ccsucc-id($Config(u(e))$) = loc(e)
& let n= ccsucc-num($Config(u(e))$) in
(n < ‖cmd-history($u(e)$)‖)
& csupdate-cmds($Sys(e)$) = nth_tl(n;cmd-history($u(e)$))))))
& ($\forall e_1$, e_2:{e:E(Sys)| $\uparrow$csupdate?($Sys(e)$)} .
($u(e_1)$ <loc $u(e_2)$) $\Rightarrow$ (loc(e_1) = loc(e_2)) $\Rightarrow$ (e_1 <loc e_2))
& ($\forall e$:{e:E(Sys)| $\uparrow$csupdate?($Sys(e)$)} , s:E.
(s <loc $u(e)$)
$\Rightarrow$ ((($\uparrow$($s \in_b Sys$)) & valid-sys(es;$Config$;Sys;s))
$\vee$ (($\uparrow$($s \in_b Config$)) & ($\uparrow$ccsucc?($Config(s)$)))))
$\Rightarrow$ ($\exists e'$:{e:E(Sys)| $\uparrow$csupdate?($Sys(e)$)} . ($u(e') = s$)))

clarification:

update-antecedent{i:l}
(es; Cmd; Sys; $Config$; u)
$\equiv_{\text{def}}$ ($\forall e$:{e:es-E-interface(es;Sys)| $\uparrow$csupdate?($Sys(e)$)} . es-causl(es; ($u(e)$); e))
& ($\forall e$:{e:es-E-interface(es;Sys)| $\uparrow$csupdate?($Sys(e)$)} .
(($\uparrow$(($u(e)$) $\in_b$ Sys))
$\Rightarrow$ (valid-sys(es;$Config$;Sys;$u(e)$)
& csupdate-cmds($Sys(e)$) = sys-cmds($Sys(u(e))$) $\in$ (Cmd List)))
& (($\uparrow$(($u(e)$) $\in_b$ $Config$))
$\Rightarrow$ (($\uparrow$ccsucc?($Config(u(e))$))
& ccsucc-id($Config(u(e))$) = es-loc(es; e) $\in$ Id
& let n= ccsucc-num($Config(u(e))$) in
(n < ‖cmd-history{i:l}
(es; $Config$; Cmd; Sys; ($u(e)$))‖)
& csupdate-cmds($Sys(e)$)
=
nth_tl(n;cmd-history{i:l}(es; $Config$; Cmd; Sys; ($u(e)$)))
$\in$ (Cmd List))))
& ($\forall e_1$:{e:es-E-interface(es;Sys)| $\uparrow$csupdate?($Sys(e)$)} ,
e_2:{e:es-E-interface(es;Sys)| $\uparrow$csupdate?($Sys(e)$)} .
es-locl(es; ($u(e_1)$); ($u(e_2)$))
$\Rightarrow$ (es-loc(es; e_1) = es-loc(es; e_2) $\in$ Id)

$\Rightarrow$ es-locl(es; e_1; e_2))
& ($\forall e$:{e:es-E-interface(es;Sys)| $\uparrow$csupdate?($Sys(e)$)} , s:es-E(es).
es-locl(es; s; ($u(e)$))
$\Rightarrow$ (((($\uparrow$($s \in_b Sys$)) & valid-sys(es;$Config$;Sys;s))
$\vee$ (($\uparrow$($s \in_b Config$)) & ($\uparrow$ccsucc?($Config(s)$)))))
$\Rightarrow$ ($\exists e'$:{e:es-E-interface(es;Sys)| $\uparrow$csupdate?($Sys(e)$)} . ($u(e') = s \in$ es-E(es))))

http://www.nuprl.org/FDLcontent/p0_963683_/p0_591486_{update-antecedent}.html