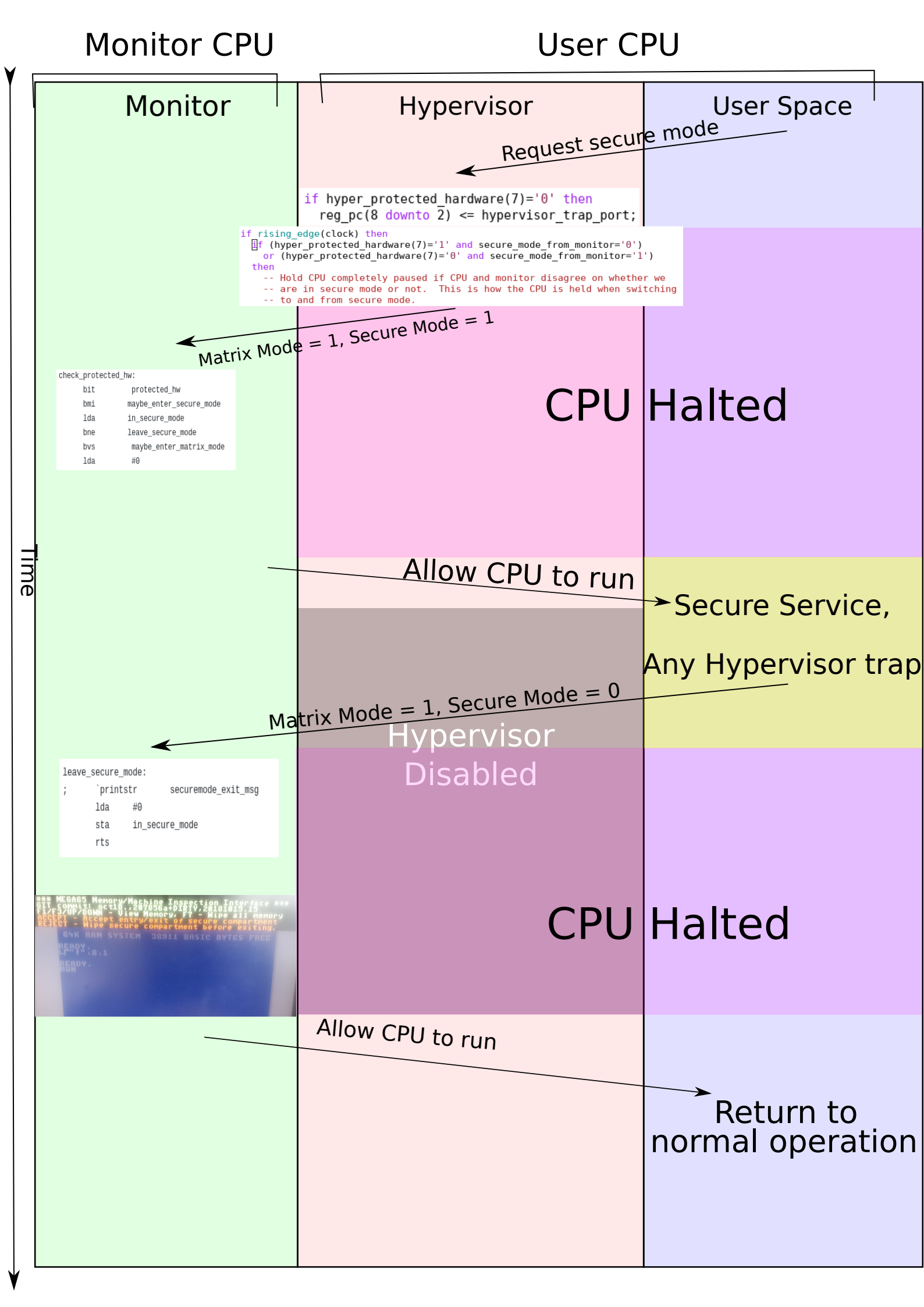
Monitor CPU
User CPU
Monitor
Hypervisor
User Space
Request secure mode
if hyper_protected_hardware(7)='0' then
reg_pc(8 downto 2) <= hypervisor_trap_port;
if rising_edge(clock) then
if (hyper_protected_hardware(7)='1' and secure_mode_from_monitor='0')
or (hyper_protected_hardware(7)='0' and secure_mode_from_monitor='1')
then
-- Hold CPU completely paused if CPU and monitor disagree on whether we
-- are in secure mode or not. This is how the CPU is held when switching
-- to and from secure mode.
Matrix Mode = 1, Secure Mode = 1
check_protected_hw:
bit protected_hw
bmi maybe_enter_secure_mode
lda in_secure_mode
bne leave_secure_mode
bvs maybe_enter_matrix_mode
lda #0
CPU Halted
Allow CPU to run
Secure Service,
Any Hypervisor trap
Matrix Mode = 1, Secure Mode = 0
Hypervisor
Disabled
leave_secure_mode:
; `printstr securemode_exit_msg
lda #0
sta in_secure_mode
rts
CPU Halted
Allow CPU to run
Return to
normal operation
Time