Lecture #9   CS695   3.2 2023
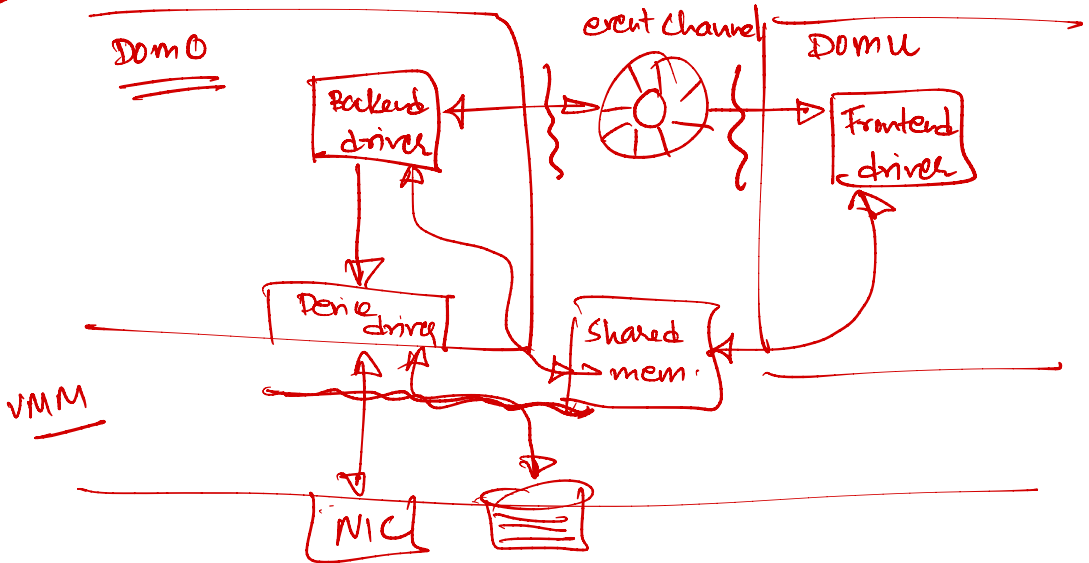
* IO virtualization for VMs.

(ii) PV approach to IO virtualization
          (split device model)

xen

* DOM 0 intializes per device event channel
                                    & memory
                           shared.

↳ Dom u   works w/ simplified device interface
↳ simplified IO stack, coalesce data to/fro
   Dom 0   contains ~~physical~~ device drive for
                                    phy. devices.

   Dom 0   multiplexes all IO traffic.

PV NIC

N/w interface: MAC addr.
                IP addr.

Dom0   Backend driver

Software
Switch (L2)   vif 0

eth0   NAT   vif 1
                                vif 2

                peth0

                        MAC ⇔ vif

Front
end

VM