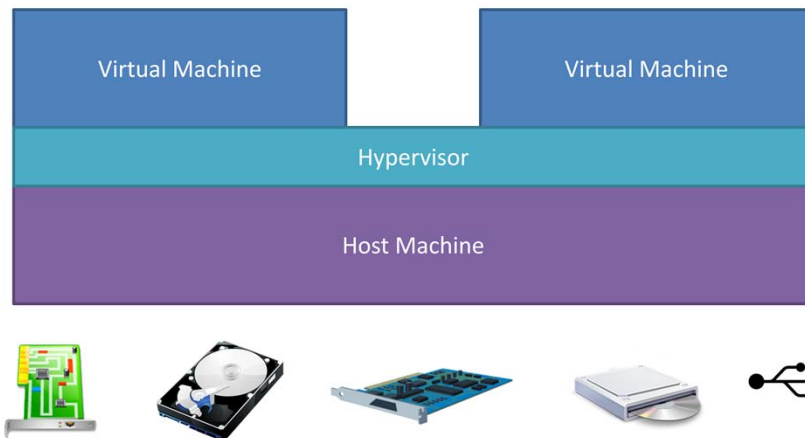


Shared Devices

جامعة كارنيجي ميلون في قطر
Carnegie Mellon University Qatar

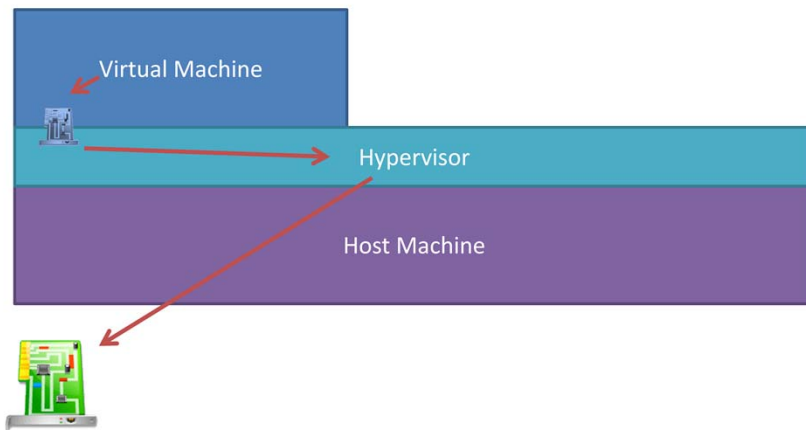
In this video, we'll discuss how shared devices are handled by hypervisors in virtualization.

Shared Devices



Some devices, such as a network adapter, can be shared among a number of guest VMs. The hypervisor needs to co-ordinate access to these shared devices.

Example: Network Devices

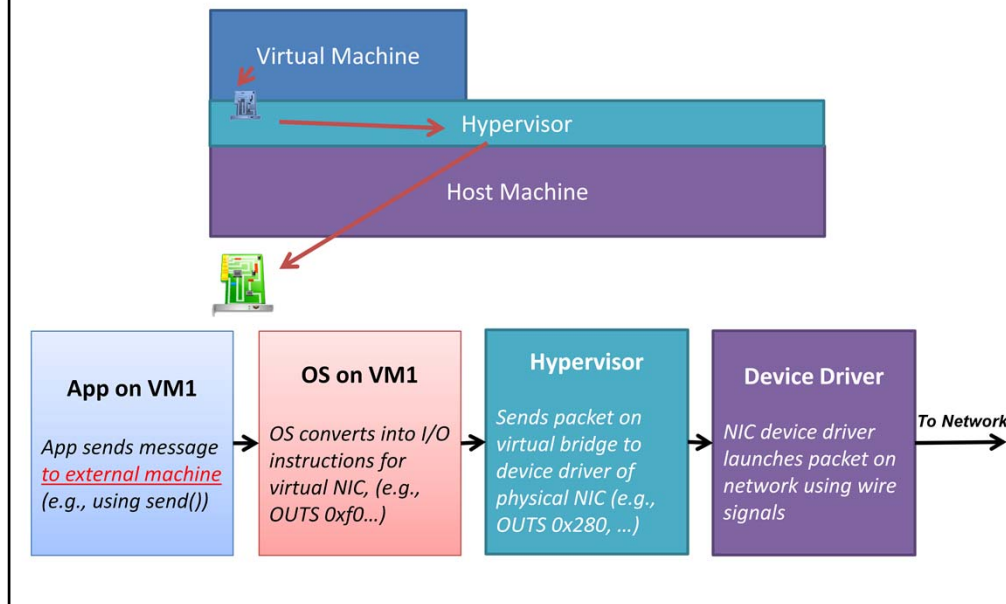


Lets take the example of a network device. Typically each virtual machine would have a virtual version of the device, in this case a virtual nic.

A request by a VM to use the network is translated by the VMM to a request on a physical network port. To make this happen, the VMM uses its own physical network address and a virtual device driver

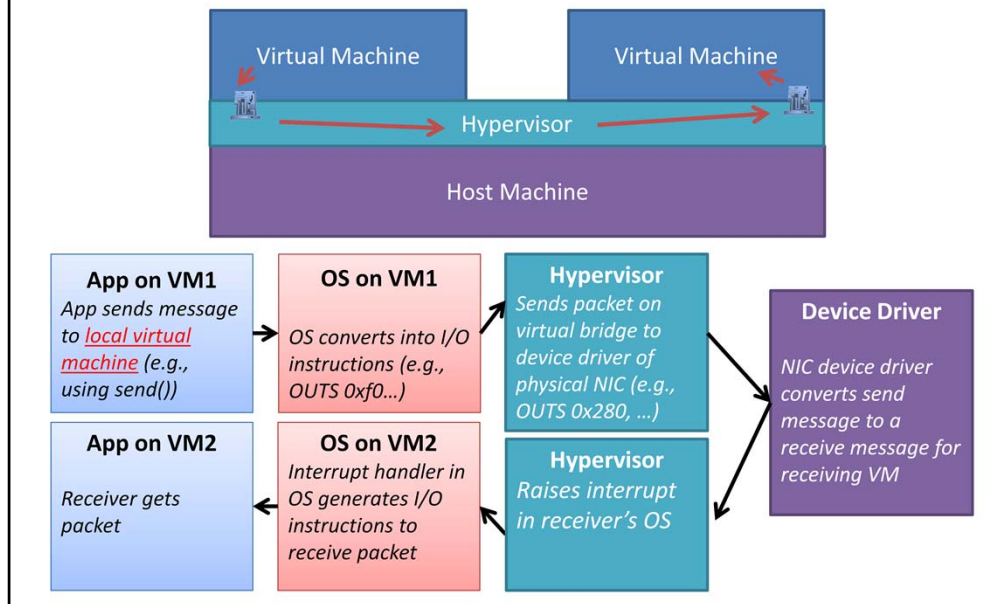
Similarly, incoming requests through various ports are translated into requests for virtual network addresses associated with different VMs

Network Virtualization- Scenario I



Let us look at the first scenario, where an application inside a virtual machine needs to send a message to an external machine.

Network Virtualization- Scenario II



Let us look at the second scenario, where an application inside a virtual machine needs to send a message to an co-resident virtual machine.