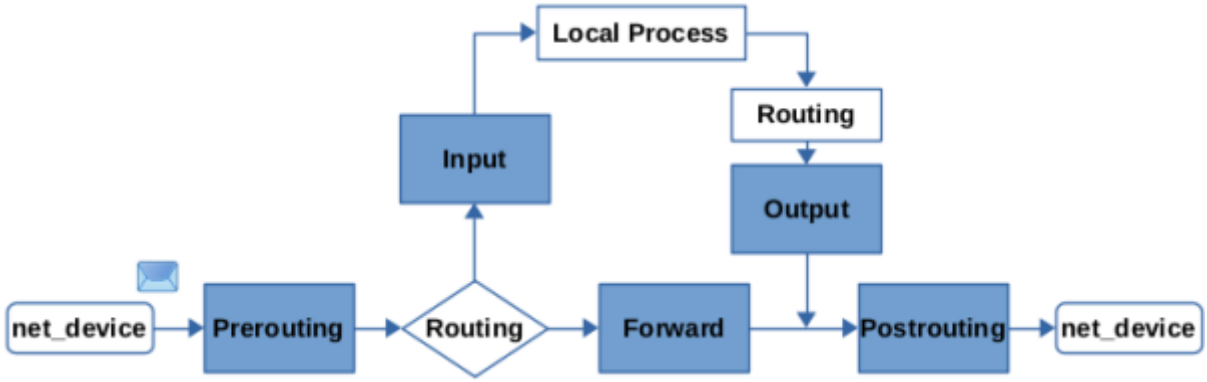
NFTables

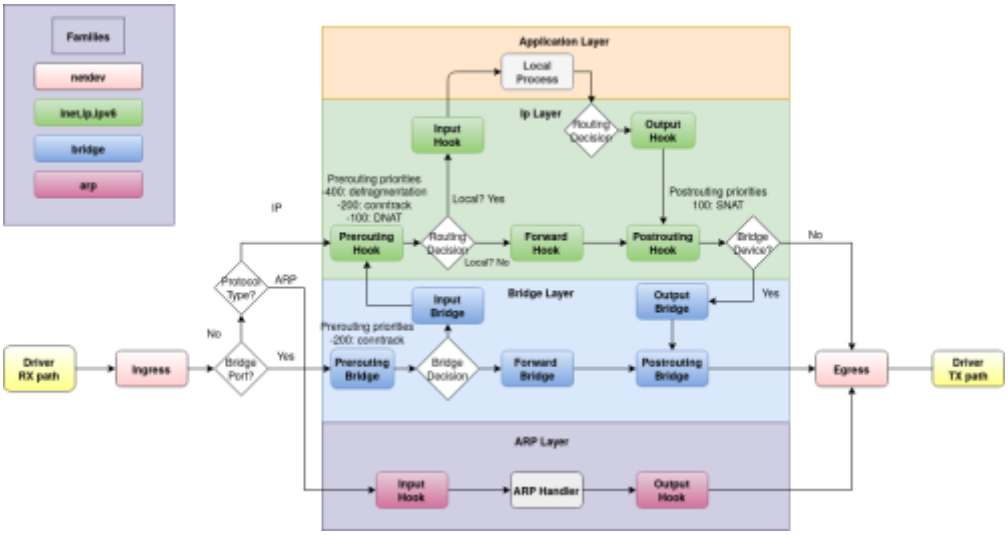
Hooks

Every packet that enters a system, whether incoming or outgoing will trigger some hooks as it traverses through the Linux kernel's networking stack. Those five hooks have been present in the Linux kernel for a very long time. Linux kernel allows rules that are associated with these hooks to interact with the network traffic. Nftables has five hooks including prerouting, input, output, post routing, forward, and ingress.



When traffic flow goes into a local machine, first, it faces the prerouting hook and then input hook. Next, the traffic generated by the local machine's processes follows the output hook and then the postrouting hook as shown in the next figure. The packets destined to your network but are not addressed to the local node will face the forward hook after following prerouting and then postrouting path. Ingress hook, however, as a new hook in nftables, is a hook that is placed before all the hooks behind the prerouting hook and can filter traffic on layer 2 OSI model. With this hook, therefore, early filtering policies can be defined (2019).

There are different hooks for different "family" types. The following schematic shows packet flows through Linux networking:



Links

- wiki.nftables.org