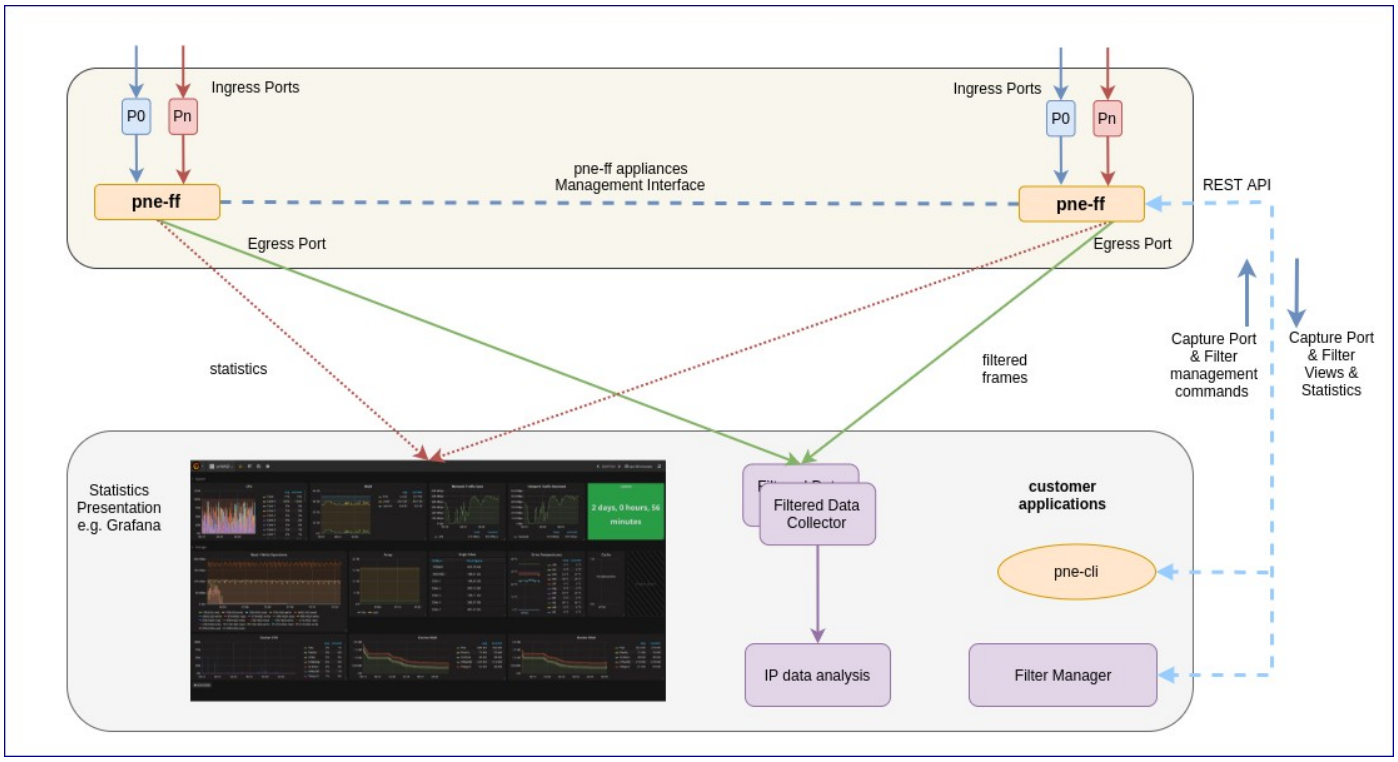


The pne-ff is a IP filtering appliance that operates in standalone mode or integrated into downstream systems. It offers many multi-speed links from a high port-density platform with a small footprint both in space and thermals. Its P4 programmable platform means that features can be quickly customized to particular needs. Resilient configurations are possible without duplicated hardware for two or more units.

filtering: The pne-ff filters one or more high speed links using IPv4 and IPv6 single and range addresses and forwards them to a collecting application.

integration: A REST API makes it a flexible option for any integration into downstream collectors and management systems.

standalone It can be used as a standalone system, configured by the pne-cli command line interface and delivering its filtered frames to an independent collector port.

resilience: Two or more pne-ff can be configured in failover scenarios to ensure minimal downtime due to component failure or maintenance requirements without the need for duplicated hardware.

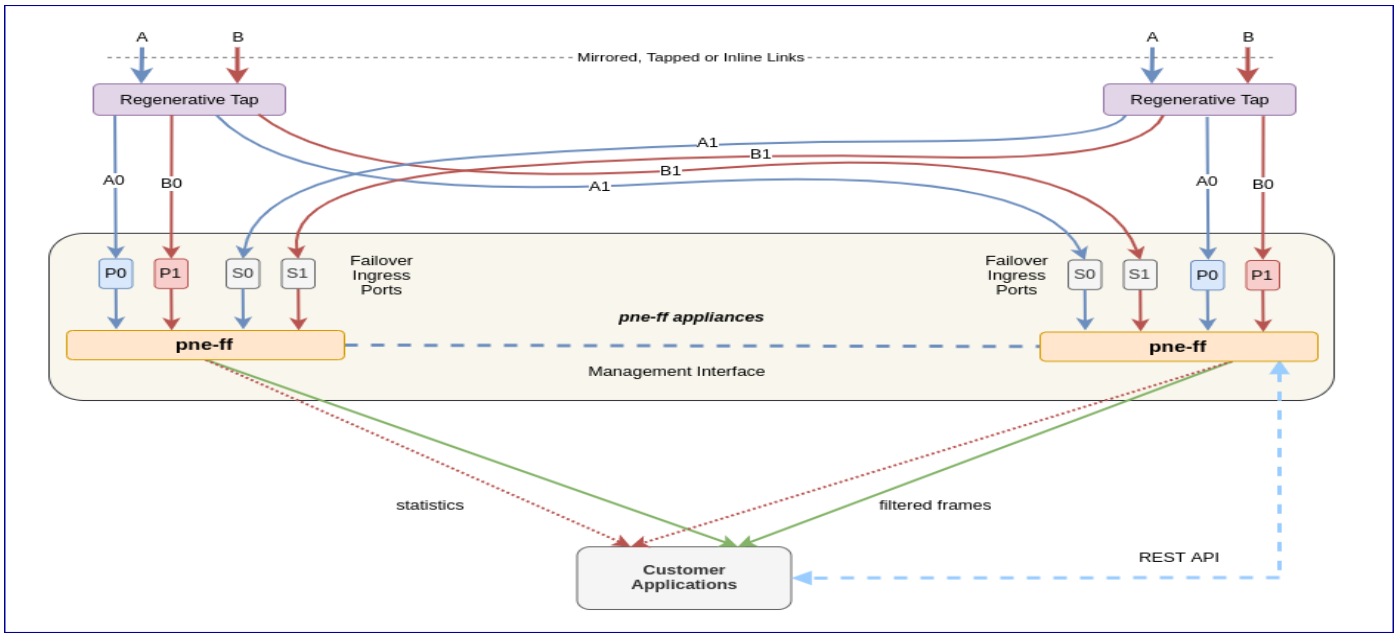
footprint: The BF2556X-1T-A1F is a 1 HU rack component – the BF6064X-T-A2F is a 2 HU – a very small footprint in terms of space and thermals compared to the port density.

multi-speed links: The BF2556X-1T-A1F offer 16 * 1 GbE & 32 * 10/25 GbE or 48 * 25 GbE as well as 8 * 40/100 GbE ports - the BF6064X-T-A2F offers 64 * 100 GbE ports.

flexible linking: up to 4 * 10 GbE and can be aggregated into a single 40/100 GbE – up to 4 * 25 GbE can be aggregated into a single 100 GbE link using breakout cables.

statistics: can be integrated into the customers application or presented by standalone applications e.g. InfluxDB, Grafana.

Intel – Barefoot: the pne-platform is based on the Tofino ASIC which is owned and promoted by Intel for Data Plane processing



The pne-ff can be deployed in Resilient configurations. Using a regenerative tap, two copies of a single link are fed to two separate pne-ffs. At one pne-ff the link is included in the filtering process and in the other pne-ff, the copy link is excluded. Should one pne-ff fail, the operator can enable the copy link at the remaining active pne-ff. Via integration the switching on of the copy link can be automated.

Resilient configurations are very useful not alone in failover situations but also for piecemeal upgrades or other maintenance tasks. This configuration is very cost-effective for two or more pne-ff units as there is no need to duplicate the hardware.

Features

- filters one or more 1, 10, 25, 40, 100 GbE ingress links
- IP version 4 and 6 single and range address filtering
- looks past MPLS and VLAN routing protocols to filter the IP header
- configurable options include:
    - truncates payloads on delivery
    - tags ethernet frames for egress identification or routing
    - egress delivery links 1, 25, 40, or 100 GbE links
- CLI interface to control configuration and filter tables
- REST API option for direct integration into management systems
- statistics for ports, ingress and egress traffic
- dual power supply, resilient restart

Advantages

- P4 re-programmable platform
  > fast turn around on bugs & features
- IPv4 & IPv6 filtering
  >other Layer 2 – 4 filtering possible
- platform supports up to 64 * 100 GbE
- high availability without hw duplication
- standalone or integrated deployment
- cascaded function configurations
- small footprint & low thermals
- raw or custom annotated packets
- packet slicing for Netflow generators

platforms

– BF2556X-1T-A1F

– 1/25/40/100 GbE ports

– BF6064X-T-A2F

- 64 x 100 GbE ports

connectivity

- QSFP28 SR, LR – 100 GbE
- SFP28 SR, LR – 25 GbE
- SFP28 Copper – 1 GbE
- DAC – 25 GbE & 100 GbE
- RJ45 - 1 GbE – Management Port