

Collaborative Discussion 2 – Peer Response 3 – Jonathan Callaghan

Thank you Jonathan for your interesting and very well researched post.

While researching packet filtering firewalls, I noticed that there is some confusion in naming and defining such systems.

A packet filter is a software-based filter for network packets in order to classify them based on their characteristics such as protocol type, destination port, destination address and sender address and then to adapt predefined rules accordingly (Chapman 1999). These filters can accept packets, reject them or simply drop them and thus make the network address practically invisible.

Of course, a packet filtering firewall also works like a packet filter. However, the firewall is set up on a device specially for this purpose, which protects the entire network. It is not part of the network like a router or a server, but an independent logical component that runs through the entire data traffic between LAN and WAN (Coreth Consulting, 1999). The firewall must be immune to intruders, because the security of the firewall determines the security of the entire network behind it. The advantage of the central firewall is that it simplifies security management (Hertzog & Mas, 2013). The filter rules do not have to be defined individually for each computer. Monitoring also takes place centrally via the firewall. If necessary, it can also trigger an alarm, since external attacks can take place via this defined interface between LAN and WAN.

In conclusion, it can be said that every packet filter firewall is a packet filter, but not every packet filter is a firewall.

References:

Chapman, B. (1999) Network(In)Security Through IP Packet Filtering. Great Circle Associates. Available from:
https://www.usenix.org/legacy/publications/library/proceedings/sec92/full_papers/chapman.pdf [Accessed: 22.09.2021]

Coreth Consulting (1999) Firewalls vs. Packet Filters. Available from:
https://www.coreth.com/techdocs/fw_vs_pf.html [Accessed: 22.09.2021]

Hertzog, R. & Mas, R. (2013) The Debian Administrator's Handbook. Freexain SARL. Available from: <https://debian-handbook.info/browse/jessie/sect.firewall-packet-filtering.html> [Accessed: 21.09.2021]