Thank you Zihaad for highlighting the importance of protecting endpoints as part of network security. There is a need to instantly detect and respond to threat in every endpoint without risking further harm since everyday activities like online banking and sharing data across multiple platforms depends on web applications interactions. Web application firewalls (WAFs) are the first line of defence mechanism for network/internet-based application which is always vulnerable to attack. Clincy & Shahriar. (2018) Identifies that Web application firewalls (WAFs) has the ability to spot possible threats even if the application deployment process may be missing such a detection by performing a deep packet inspection and data analysis of network traffic occurring between client and server. Applications are vulnerable to bugs like email injection, session hijacking, cross site scripting  even when programs are accurately implemented by developers, so this highlights the need for  extra layer of security which Web application firewalls (WAFs) tends to provide. (Clincy & Shahriar, 2018)

One limitation as highlighted by Positive Technologies. (2019) is the need to understand the nature of modern day attack to make the best use of WAF. This happens when an attacker exploits code vulnerability to make malware and make it look like the part of the application. However, he quickly recognises the ability of Web application firewalls (WAFs) to not only spot vulnerabilities in code but also protect it from “zero-day exploits which is not detected by any known behavior analysis. It is the most dangerous and popular type of threat that traditional security measures are not equipped to mitigate or prevent”.  Also, Clincy & Shahriar. (2018) highlights complexity around the configuration of WAF which is due to back end server hosting multiple application at the same time.

Reference:

Clincy, V & Shahriar, H. (2018) ‘Web Application Firewall: Network Security Models and Configuration’, *2018 IEEE 42nd Annual Computer Software and Applications Conference (COMPSAC).*Tokyo, Japan, 23-27 July. IEEE.835-836.

Positive Technologies. (2019) Positive Technology. Available from: https://www.ptsecurity.com/ww-en/analytics/knowledge-base/waf-web-application-firewall/ [Accessed 23 Sept 2021].