When an employee joins an organization, they are presented with a computer, either a desktop, laptop or thin device that is locked down for that specific role. These devices are shipped with operating systems such as Windows, Apple OS or Linux. Each operating system comes with its own set of security concerns. One of them for example, is the printer exploit that has plagued Windows users for a few months now and this exploit, some of them zero-day, gives an attacker the opportunity to take over a machine and cause damage. Each of them has a different “Common Vulnerabilities and Exposures” (Redhat, 2020), also known as CVE’s.

Companies can deploy a patch to the operating systems affected which shows us that this is a software security issue however, if no patch is available, companies can block printer ports on a Packet-Filtering Firewall (S. Krit and E. Haimoud, 2017) so that internet hackers cannot access the resource. A Packet-Filtering Firewall lack features that a next generation firewall is capable of handling, however they are more expensive. A next generation firewall (NGFW) may also have to be deployed as an extra layer of security to the network. (S. Krit, E. Haimoud, 2017).

End users will want to install software to “personalize” the operating system they work on or even load “cracked software” which introduces risk to the network and other employees such as Ransomware, Malware, Viruses etc. In many companies, departments are segmented by networks, so they are isolated from each other. This is great if you have network issues but only affects a certain floor or part of a building. If a machine does get infected by rogue software for example, it is contained to that part of the network. Monitoring network, computers and applications continuously, will raise efforts to detect anything strange on end user computers and will assist the IT department in mitigating potential attacks (Dean F. Sittig, Hardeep Singh, 2016)

References

Redhat. (2020) What is a CVE. Available from: [**https://www.redhat.com/en/topics/security/what-is-cve**](https://www.redhat.com/en/topics/security/what-is-cve) [Accessed 10 September 2021]

S. Krit and E. Haimoud, "Overview of firewalls: Types and policies: Managing windows embedded firewall programmatically," *2017 International Conference on Engineering & MIS (ICEMIS)*, 2017, pp. 1-7, DOI: 10.1109/ICEMIS.2017.8273003.

Dean F. Sittig, Hardeep Singh. (2016) A socio-technical approach to preventing, mitigating, and recovering from ransomware attacks. DOI: https://doi.org/ 10.4338/ACI-2016-04-SOA-0064