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# **CYBERSECURITY** (Online)

Virtual Private Network (**VPN**)

A VPN (Virtual Private Network) is a tool for ensuring the internet privacy of an individual. A VPN establishes a secure, encrypted connection between one’s computer and the internet, providing a private tunnel for one’s data and communications while using a public network.

VPNs, protect one’s online privacy so one cannot be targeted or discriminated based on their location. A VPN masks one **IP address** – a special number unique to your home network – by acting as an intermediary and rerouting one’s internet traffic (e.g. online searches, uploads and downloads). It adds an encryption, or a tunnel around one’s identity, as he/she connects to the internet. The combination of VPN servers and the encryption tunnel blocks one’s ISP (Internet Service Provider), governments, hackers, and anyone else from spying on you as you navigate the web.

Proxy

A proxy server is a server application that as an intermediary between a client requesting a resource and the server providing that resource instead of connecting directly to a server that can fulfill a request for a resource, such as a file or web page, the client directs the request to the proxy server, which evaluates the request and performs the required network transaction. These servers as a method to simplify or control the complexity of the request, or provide additional benefits such as load balancing, privacy, or security.

Examples of Proxy servers:

* Content-filtering web proxy server-controls over the content that may be relayed in one or both directions through the proxy.
* Caching proxy servers- accelerates service requesting by retrieving the content saved from a previous request made by the same client or even other clients.
* Translation proxy servers- is a proxy server that is use to localize a website experience for different markets.

Web proxy servers provides administrative control over the content that may be relayed in one or both directions through the proxy. It is commonly used in both commercial and non-commercial organizations.

Content filtering proxy servers will often support user authentication to control web access. It also usually produces logs, either to give detailed information about the URLs accessed by specific users or to monitor band width usage statistics. This is mostly used in many workplaces, school, and colleges.

Proxies can be installed in order to eavesdrop upon the data-flow between client machines and the web. All content sent or accessed including password submitted and cookies use.

A proxy can keep the internal network structure of a company secret by using network address translation, which can help the security of the internal network, making the machines and users on the local network anonymous.