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# Security Applications

Cybersecurity, Intrusion Detection, threat prevention and Anti-virus are all terms for software solutions that will provide varying degrees of protection from organizations and individuals who are searching the Internet for vulnerable networks and web sites that they can infiltrate, corrupt or disable, usually for monetary gain but sometimes just to prove they can. Increasingly, the Cybersecurity protection services are subscription based and delivered from central sites on the Internet. They are sometimes packaged into onsite physical appliances sold as firewalls and/ or routers. It is this combination that it recommended.

Regardless of the solution chosen, there are basic principles for the administration, design and use of the security of a network and the IT systems that are as follows:

- limit physical access to the equipment such as the modem, router, firewall by installing them in a closed, locked space with good airflow and assured power source
- ensure that all computer, network, security and virus protection software are kept up to date
- change all the admin names and passwords that come standard with all the equipment - modem, firewall, router, WIFI and change them at least annually
- use complex passwords to encrypt the network traffic, with automatic expiration of passwords that must be updated
- use 2-factor authentication if available on the devices
- set authorization access and restrictions to appropriate staff and contractors through programming
- utilize a VPN when allowed to enable remote computer access
- set up a number of "guest" network segments (VLAN's) to separate traffic for public network clients, wireless connections and administrative systems functions

Network and computer security systems are in a period of rapid change, with the new buzz word being Cybersecurity. Even the Canadian government has adopted the title for their security services in the digital age. Cybersecurity refers to the design and protection of internet-connected systems from attack, damage or unauthorized access and covers hardware, software and critical data.

Within a very short period of time, the products being offered by network and IT dealers and consulting companies have started to transition to a converged software protection system from single functions such as firewalls protecting the entry perimeter to your own network, or anti-virus software protecting the devices attached to the network. Cybersecurity products are updated constantly with many thousands of fixes per month and are delivered with a hybrid onsite and Internet- based set of tools offered on a subscription contract.

The products listed below are well-rounded, well- established and affordable choices for small and medium sized organizations running networks of up to 50 devices. All of these are deployed with onsite firewall appliances, our preferred solution structure.

- [SonicWall Firewalls](#) : Originally a firewall but also fulfills many technical functions
- [<https://www.cisco.com/c/en/us/products/routers/900-series-integrated-services-routers-isr/index.html>]Cisco Integrated Services Routers]] : Cisco provide comprehensive solutions
- <https://www.sophos.com/en-us/products/next-gen-firewall.aspx>}Sophos XG Firewall : Originally an anti-virus company, the Sophos appliance is a comprehensive hub for some networks
- [Fortinet](#) : Fortigate firewalls but also fulfills many functions
- [Bitdefender Business CyberSecurity](#) - available to Libraries at [Techsoup Canada](#)

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