

Riordan network design project week

Design



One of the most commonly used is McAfee Antivirus which is the software that I would present to be used as security software. With the routers and firewalls, it will block any unwanted activity coming across the network. The use of the software allows the use of a security firewall that works with the internet firewall increasing our chances of not being attacked or corrupted by viruses, and hackers. It also provides anti-spyware upon the network, indicates safety of websites, and web protection detects and helps rid the network of any spammers, malware, and viruses, phishing and spam when it comes to email, and web usage.

Without both networking hardware and software total security cannot exist. A Local Area Network (LAN) is a network that connects a group of computers that are within distance of each other to the same network. LANs are very useful when it comes to printer sharing and sending and receiving files between all the systems within the facility that share that one network. A LAN is connected by using Ethernet cables, adapters, and hubs. Its counterpart is the WAN or Wide Area Network a WAN is connected by two or more LANs and are used for public networking the largest is the internet.

This is primarily used for larger networks because it can cover more area giving access to more users. A wireless connection is the WAP or Wireless Access Point that is transmitted by radio waves over hundreds of feet connected by the internet hub. WLAN is composed of IEEE 802.11 standards the most common standards used are 802.11b, 802.11a, and 802.11g. Not the best for video and voice communication cause it can cause delays and higher security threats, and range of service is limited to the area the user is in.

When it comes to WLAN security there is WEP, WPA, and WPA2. WEP comes in both static and dynamic. The static version has a 24-bit starting point and usually results in 64 or 128-bit keys. The dynamic version on the other hand uses the authentication within the IEEE 802.11 standards. The current standard when it comes to WLAN security is WPA. The three main elements of WPA are "Temporal Key Integrity Protocol (TKIP) which is based on RC4 encryption, where a 128-bit key and generates new encryption keys after various configurable intervals making it very difficult to decrypt.

There is also Message Integrity Code this uses a kind of digital signature to each frame to ensure that messages are not tampered with or captured and replayed. Last but not least is IEEE 802.11 authentication framework the IEEE standard for port-based access control that is included in the latest wireless security wired users. Then there is the AVQoS which is the combination of QoS and WLAN connection. It is QoS or Voice over IP over a wireless network. It requires higher initiated which are used to increase the capacity while minimizing the jitter and delay within the voice packets over the network.

WPA2 are Wireless Personal Area Networks only deal with small or single person usage and is limited by distance and low volume. Bluetooth is the common technology that is relevant and utilized. There are other technologies mentioned within the text other than Bluetooth that use the same WPA standard and those are NFC or Near Field Communication, RFID or Radio Frequency Identification, and UWB or Ultra Wideband.. There are many different devices that are utilized in our everyday communication networks to keep us connected on a daily basis.

One of the devices used is a DSL IP it is used to Join both LAN to WAN which gives allow full access to the internet. Switches are another device smaller in size used to connect multiple computers on the same LAN. Switches can also inspect packets of data and with that help the security enhancing its performance through its error control. Ethernet cable is the most common form of networking cable. The cable is used to connect devices within a local area network injection such as PC's but also can include routers and switches also.