

Data communication and networking

[Technology](#), [Information Technology](#)



Data Communication and networking 1a) VLAN Hopping VLAN hopping is a method of gaining entry to a network by sending packets to a port that cannot be accessed from an end system. The process occurs through utilization of the autotrunking feature in DTP or through frames that are embedded with double 802.1Q tags in switches.

1b) ARP Poisoning

This attack takes place by poisoning/feeding the address resolution protocol by the attacker's MAC address. When the attack is successful, the victim devices send all their information to the attacker as they communicate to other devices.

1c) MAC spoofing

MAC spoofing entails the process of changing the MAC address of a network card on a certain computer through various techniques. Using this method, a computer can bypass some access controls or servers or even imitate other computers on a certain network, thus a simple way to hack into the system. A man-in-the-middle attack through DHCP, also known as DHCP spoofing occurs when an attack is initiated, and the attacker tries to make DHCP requests responses by trying to enlist as the default server. In such a case, traffic is intercepted before it is forwarded to the user gateway.

BEAST: This is a hacking tool developed in Delphi that infects Windows operating systems. BEAST operates in reverse engineering mode and gets the required codes. It utilizes some ports and can terminate the operations of an antivirus or even a firewall, to gain entry into a victim.

Encryption

RSA is an asymmetric public key algorithm whilst DES uses cipher that is old

symmetric. RSA uses two keys, a public one and a private one whilst DES uses one key that is shared. DES can handle large chunks of data, a mechanism that is slow in RSA. Both are secret keys. PGP is standardized software that utilizes the former algorithms and others for operation. PGP is thus not an algorithm per se but has to use the other algorithms but perform the same encryption function (Keith, 165).

Work Cited

Martin, Keith. *Everyday Cryptography: Fundamental principles and Applications*. London: Oxford University Press. Print.