

Assessing reliability of network

Technology, Information Technology



Computer Sciences and Information Technology By: s Assessing Reliability of Network Lecturer's Benchmark of Measuring Network Reliability

In order to develop a secure network, it is vital to view the fundamental features of a network such as the speed of data transfer, the security of data and reliability of its traffic.

1. 1. Speed

High speed is desirable for networks in all organization. This requires that the organization should design the network with large bandwidths. According to Wendell, Rus and Denise (2010, p. 67), Ethernet networks are able to support a minimum of 100 Mbps. It can perform better with a reduction in the overhead caused by computer operating systems and the hardware (William 2004, p. 43).

1. 2. Network Security

The security of a network is essential considering the sensitivity of data transmitted through the network. The security is considered in two dimensions, hardware and software. The hardware ought to be protected from physical destruction and theft. In a similar manner, there is need for protection of the network login credentials and the actual data (Kurose and Keith 2005, p. 54). Two methods are applicable in the prevention of software and data attacks. These include encryption and tokenization.

For the protection against network threats, the administration can apply the following:

MAC address monitoring to prevent MAC flooding attack

Trunk Auto configuration to prevent 802. 1Q and ISL Tagging Attack

Native VLAN Creation to prevent the Double Encapsulated 802. 1Q/Nested

VLAN Attack

1. 3. Traffic Reliability and Availability

In spite of the network traffic and overhead in computer hardware, the up time of a network ought to be between 98% and 100% (Mansfield-Devine 2009, p. 6). Any time the network is not available, it hinders the organization's operations because there is no information flow. The administration has the task to perpetually monitor the state of the network to ensure it is available.

References

Kurose J F and Keith W. R 2005, Computer Networking: A Top-Down Approach Featuring the Internet, Pearson Education, p. 54.

Mansfield-Devine, S 2009, " Darknets". Computer Fraud & Security (12): 4-6.

Wendell O, Rus H, Denise D 2010, CCIE Routing and Switching. Indianapolis, IN: Cisco Press, p. 67.

William, S 2004, Computer Networking with Internet Protocols and Technology, Pearson Education, p. 43.