

Note: All questions are compulsory, and plagiarism should not be more than 30%.

1. What is a converged network?

Converged Network combines support for multimedia, telephone, and data on a single network. Network convergence primarily serves large, complex organizations where mobile and Internet connections are regulated behind the same firewalls or sign-on credentials. With network convergence, registered users access their Internet, Ethernet, Wi-Fi, and mobile connections through a single network that supports everything from email, VoIP, and web browsing to text messaging.

2. How do the devices and topologies found in a LAN compare to those found in a WAN?

A WAN differs from a LAN because it is not restricted by geographic location. As opposed to a LAN which connects local devices to each other, a WAN connects LANs to each other, usually across multiple locations as well as individual devices that connect from a remote distance

The speed in LAN is high as compared to WAN network. Speed of Lan can be approximately 1000 mbps whereas speed of WAN can be approximately 150 mbps.

For LAN, The Ethernet and token ring is basically used in the connection to develop the network whereas for WAN, frame relay, ATM, X.25 to connect over the longer distances to avoid error in the flow of the data while communication.

Layer 2 devices like switches and bridges, layer 1 devices like hubs and repeaters would be used as components in the LAN network whereas for WAN, the layer 3 devices like Routers, multi-layer switches are used for the connection between the networks.

For LAN, there is a high bandwidth available for the transmission of the data so the congestion of the data would be less whereas for WAN, less bandwidth is available for the transmission, so which leads to more congestion between the flow of the data.

3. What impact do BYOD, online collaboration, video, and cloud computing have on a business?

Cloud computing allows users to store their important data on servers on the internet. It also allows businesses to expand their capabilities on request. Allowing access of their data all over the world. BOYD allows users to have the freedom to use personal tools to access information and communication across the business, so in business collaboration is important in which organization comes across with each other for the competition. So, video conferencing or the online communication is important aspects of the collaboration with other organization within the country or globally across the world in which you can arrange meeting in a minute and by online you can have full discussion over your business and its progress in just a few minutes of time, rather traveling abroad by paying high expenses of travelling. Then comes cloud computing which helps in developing new infrastructure by licensing new software's or updating new technology in exiting software's.

4. How are networking technologies changing the home environment?

The home environment is being changed by adding the new features in the technology and naming as smart home technology by adding the technology in which both the users from either end can communicate directly just by putting voice messages to each other. Now a days every home has a computer/laptop. And every single person uses a smartphone. They prefer smart devices that are easy to use and pack smart tech. for example automated washing machines. Just one press of a button and your clothes are washed and dried. In advanced countries they are making smart homes in which you just have to move to the room and lights turn on automatically. If you want to change the ambience just touch the button

5. What are some basic security threats and solutions to both small and large networks?

Following are some security threats.

Viruses, malicious software's, and some arbitrary codes running the user devices which would be either called as man in the middle attack also.

MAN IN THE MIDDLE → There can be hacker attacks in which some knowledgeable person intervenes in between two users and update their information which they are communicating to each other, so their information is altered. There can also be a theft or data interception of the data from which the private information of some user can be capture even the private information for any of the organization also.

DDOS → Distributed Denial of service attack is an incident in which multiple requests and sending heavy traffic to the server causing it to lag or shutdown due to overload.

REDIRECT ATTACKS → In this a hacker illegally access a computers and devices that are communicating with each other and alters the data, steals the sensitive information from them. Also known as MitM (man in the middle), it is a cybercrime method. It is also used to spy and corrupt data.

SOLUTION:

1. One should use an anti-virus.
2. One should not access websites that are not HTTPs protected.
3. One should not share sensitive information without proper knowledge.
4. There should be stickiness to security policies for the internet user by high officials so that everybody private or public information of any of organization can be safe.