What is a network and what are the nodes present in a network?

**Computer network:**

A computer network is a setup where several computers are linked together to exchange data and resources. It is a network of numerous communicative pieces or devices that are linked together through communication links. Computers, mobile devices, routers, switches, etc. are examples of communication elements, whereas optical fiber cables, coaxial fiber cables, wireless LANs, etc. are examples of communication links.

One process running on one device in a computer network can transmit or receive data to or from at least one other process running on a different device farther away. A network of networks makes up the internet. It is overseen by many organizations.

Explanation

Nearly all of each field is represented by the examples of networks.

The Internet is the world's biggest computer network. Let's analyze that: A computer network is any system of interconnected computing devices that can send and receive data. A computing device isn't only a computer; if it can run the software, it may also be a tablet, a phone, or even an advanced sensor.

Step 2 of 4

A network node is a connecting point that can be used in a communication network to send, receive, create, or store data utilizing distributed network routes. For data transfer between networks and process recognition, each network node acts as an endpoint, or redistribution point. The concept of a network is required for packet switching and network distribution.

Nodes are connection points, redistribution points, and communication endpoints in networking. These are data points or devices spanning a wide network, such as a personal computer, printer, or phone, in computer science. Nodes are typically programmed to recognize, process, or send data from one node to another. Consequently, a node is a spot or junction where a link is made. These nodes' design was inspired by the use of dispersed networks and packet switching. Therefore, depending on the application, these nodes carry out a variety of tasks.

Every node, or connected device, on a network, has a special IP address. A network node needs a MAC address to be connected to the network. It is a special identification code given to a network interface card (NIC) by the device's makers for use in network communications.

Step 3 of 4

**Type of network node**

There are several different kinds of network nodes accessible, including the ones listed below.

**Internet network**

Host computers are actual network nodes in internetworks that may be identified by their IP (internet protocol) addresses. WLAN access points are one example of data link equipment that lacks IP host addresses. Instead of being hosts or internet nodes, these are regarded as LAN nodes or physical networks.

**Data Communications**

In data communications, data communication devices or equipment are primarily the physical network nodes. These are positioned between data transmission networks and DTE (data terminal equipment). Bridges, switches, hubs, and modems are some examples of these devices. These devices' primary duties are line clocking, signal conversion, and coding.

The network nodes in data communications primarily host computers such servers, routers, and workstations, as well as DTE-like printers and digital telephone handsets.

**Telecommunication**

Network nodes in permanent telephone networks might be computerized smart network services or private or public telephone exchanges. Base station controllers, which make up the majority of nodes in cellular communications, are responsible for managing many base stations. However, base stations are not regarded as nodes in cellular networks.

**LANs & WANs**

In LANs and WANs, a network node is a device that serves a specific purpose. Every node is required to have a MAC address for each NIC (network interface card). Computers, wireless LAN access points, modems with Ethernet ports, and other devices are examples of this.

**Cable TV System**

To order to serve a general fibre optic receiver in a geographic area, nodes in cable networks are typically connected with fibre optic cable that connects to residences or businesses. The number of businesses or residences that can be served by a certain fibre node is explained by a fibre optic node in the cable system.

Step 4 of 4

**Role of the node in the network**

The router and end device are two types of forwarding roles that nodes in a thread network might play.

The packets for network devices can be transmitted by a node similar to a router. It provides safe commissioning services for equipment having trouble connecting to the network. This device's transceiver can always be turned on.

A node that communicates with a router is known as an End Device. The packets are not sent to other network devices by it. This device's transceiver can be turned off to use less power.

**Final Answer**

A network is made up of two or more computers that are linked together to share resources (such as printers and CDs), trade files, or permit electronic communications. Cables, phone lines, radio waves, satellites, or infrared laser beams can all be used to connect a network's computers.

Network nodes are the endpoints, communication, or redistribution points in a network that can have the ability to produce, receive, store, and send data through dispersed pathways.