CLOUD NETWORKING

Cloud Network :

A cloud network is a Wide Area Network (WAN) that hosts users and resources and allows the two to communicate via cloud-based technologies. It consists of virtual routers, firewalls, and network management software.

Types of cloud Networking :

1. Cloud Networking

Cloud Networking comes with utilizes virtualized networking technologies to manage network resources within a cloud environment, providing scalability and centralized management.

2. Multi Cloud Networking

Multi Cloud Networking comes with facilitating connectivity and traffic distribution over multiple cloud service platforms with ensuring interoperability and security across diverse multi cloud environments.

3. Hybrid Cloud Networking

Hybrid cloud Networking comes with involving integration of on-premises infrastructure with public and private cloud environments. It provides seamless data flexibility with hybrid connectivity.

Port :

* A port is a virtual endpoint that identifies a specific application or service on a server, allowing it to send and receive traffic.
* A port works with an IP address to form a unique communication channel known as a socket.
* All port numbers, which range from 0 to 65535, are managed by the Internet Assigned Numbers Authority (IANA).

How port numbers work?

The transport layer protocols, TCP and UDP, use port numbers to manage data transfer at the communication endpoints.

Types of Port Numbers :

1. Well-Known Ports (0–1023) :

* Purpose: Reserved for the most common and standardized services.
* Examples:
  + 80 (HTTP): Standard, unencrypted web traffic.
  + 443 (HTTPS): Secure, encrypted web traffic.
  + 22 (SSH): Secure remote access to a device.
  + 25 (SMTP): Used for sending email.
  + 53 (DNS): Resolves domain names to IP addresses.

2. Registered Ports (1024–49151) :

* Purpose: Used by specific applications from software vendors. Organizations can register these ports with IANA to avoid conflicts.
* Examples:
  + 3306: MySQL database.
  + 3389: Remote Desktop Protocol (RDP).
  + 5432: PostgreSQL database.
  + 8080: An alternate port for web traffic, often used for web proxies and testing.

3. Dynamic/Private Ports (49152–65535) :

* Purpose: Used for temporary, short-lived connections, primarily by client-side programs.They are dynamically assigned by the operating system from an available pool.
* Example: When you open a web browser, it connects to the website's port 443 (destination port), but the browser itself uses a random, ephemeral port from this range for its local communication (source port).