List the different identifiers that label a computer.

IP (internet protocol) address

An IP address is a numerical designation provided to each device connected to a computer network that communicates using the Internet Protocol. It's a unique number that's linked to a particular machine or computer network. An IP address is used for two purposes: identifying a host or network interface, and addressing a specific location.

UUIDs

Universally Unique Identifiers, are 128-bit numbers made up of 16 octets and 32 base-16 letters that can be used to identify data across a computer system. Microsoft created this specification, which was later standardised by both the IETF and the ITU.

WWPN

It stands for "World Wide Port Name," and it's a unique identification for each Fibre Channel port that's connected to a Storage Area Network (SAN). A WWPN is a unique and persistent identifier for each port on a Storage Device. In a Fibre Channel fabric, a World Wide Node Name, WWNN, or WWnN, is a World Wide Name assigned to a node (an endpoint, a device).

A Media Access Control address (MAC address) is a hardware identifier that allows each device on a network to be uniquely identified. It is primarily assigned by the manufacturer. They're frequently seen on the network interface controller (NIC) card of a device.

The MAC address is a 12-digit hexadecimal number with a colon or hypen separating every two digits in most cases (an octet),

How does a computer know its IP address?

Step 1:

The internet protocol address (IP address) is a numerical identifier that is connected with a certain computer or computer network. When computers are connected to the internet, the IP address allows them to send and receive data.

Step 2:

The Dynamic Host Configuration Protocol (DHCP) is a network service that assigns them. Network gear, such as routers or dedicated DHCP servers, are commonly used to run DHCP. A leasing system is used to issue dynamic IP addresses, which means the IP address is only operational for a certain time.

How does a computer know its Ethernet address?

Step 1:

This address is the unique identifier that enables a networked computer to connect to the Internet. The ethernet address is used to associate a "IP address" with a specific computer; without it, no servers, websites, email, or other services may be accessed.

Step 2:

A physical address, commonly known as a MAC/Ethernet address, is assigned to each node in a LAN. This address is 6 bytes (48 bits) long and is unique to each node on the LAN. It is burned on the Ethernet card (also known as the network interface card). Ethernet is a protocol that uses byte counts.

What is a MAC address?

Step 1:

A media access control address is a one-of-a-kind identifier assigned to a network interface controller for use as a network address in intra-network communications. Most IEEE 802 networking technologies, such as Ethernet, Wi-Fi, and Bluetooth, employ this technique.

Step 2:

A MAC address is a hardware identifying number that allows each device on a network to be uniquely identified. Every network card, such as an Ethernet or Wi-Fi card, comes with a unique MAC address that cannot be modified.

What is the service that relates Internet Domain Names to IP addresses?

Step 1:

DNS

DNS converts domain names to IP addresses, allowing browsers to access resources on the Internet. Each Internet-connected device has a unique IP address that other machines use to locate it. DNS servers minimise the need for humans to memorise IP addresses like 192.168

Step 2:

The Domain Name System (DNS) is a hierarchical and decentralised naming system for computers connected to the Internet or other Internet Protocol networks. Domain names are linked to various types of information by resource records in the DNS.

What is the service that relates IP addresses to MAC addresses?

Step 1:

On the internet, both MAC Address and IP Address are used to uniquely identify a system. The chip manufacturer provides the MAC address, while the Internet Service Provider provides the IP address.

Step 2:

The ARP protocol can be used to retrieve the MAC address. The RARP protocol can be used to recover an IP address. The MAC Address is provided by the chip maker. The IP Address is provided by the Internet Service Provider, or ISP.