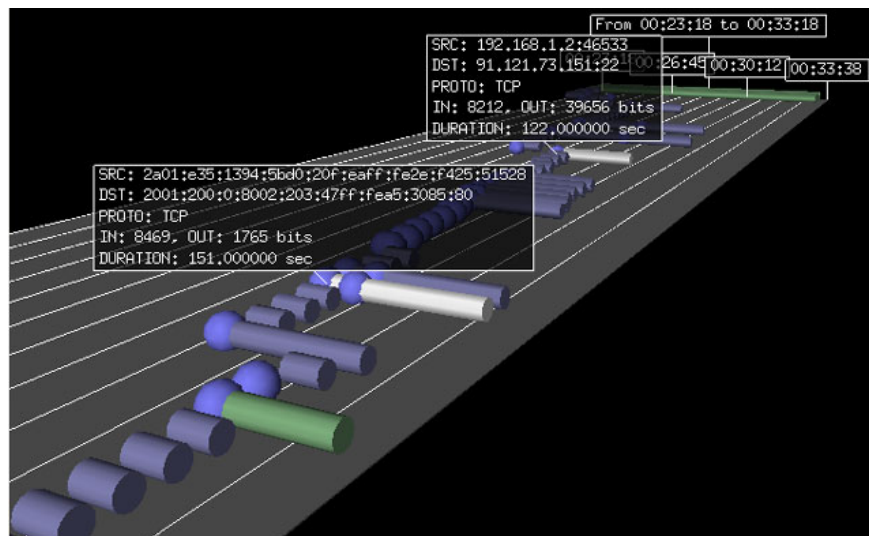


9 things to know when moving to IPv6

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IPv4 addresses are gradually depleting, making people turn their attention to IPv6.

IPv4 has provided billions of addresses, helping people around the world get closer together. However, the explosion of the Internet has made the number of IPv4 addresses become inadequate: in February 2011, ICANN has issued the last unused IPv4 address blocks, to address management organizations. area (RIR).



On June 1, 2011, World IPv6 Day (World IPv6 Day), there were hundreds of companies, agencies and universities participating in IPv6 testing. This event has attracted the attention of many users around the world. Here are some user questions and answers about IPv6 addresses.

1. Why do we need IP addresses?

To communicate on the network, we need an IP address. Similar to the way we send mail by mail, the letter should clearly indicate the destination and destination, each packet (data) when sent via the network also has two information: the source IP address (place of sending), the address destination IP (destination). There are 2 types of IP addresses: Public IP allows computers to communicate on the Internet, private IP allows computers to communicate on the local network (LAN).

Computers will 'see' each other based on their IP address. Because IP addresses are numbers, so to help users remember, DNS Domain Name System (Domain Name System) will help resolve domain names and IP

addresses. For example, when you enter the domain name TipsMake.com.vn, DNS will resolve the domain name to an IP address, helping computers and service servers to 'see' each other.

2. How many IPv4 addresses are there?

There are about 4 billion IPv4 addresses, 32 bit long binary. IPv6 address is 128 bits long, so IPv6 will have about 340,000,000,000,000,000,000,000,000,000 addresses. Experts say this address number can be considered endless.

3. When IPv4 address is exhausted, cannot be allocated anymore?

Cricket Liu, vice president of architecture for Internet software company InfoBlox, said that if you were in Asia this would happen soon. APNIC (Asia-Pacific Network Information Center) currently allocates the last IPv4 address.

4. What happens when an IPv6 user computer accesses a website using IPv4?

Under Cricket Liu, in the worst case you may not be able to access the website, the message " **server not found** " appears. Leo Vegoda, ICANN's Digital Resource Manager, said the messages you receive will be forwarded to the browser provider.

5. Will IPv6 restrict access to websites?

You can still access normal IPv4 websites, because service providers will offer a variety of tools to help transfer content that works only on IPv4 to access computers using IPv6 only. One of those tools is **NAT64** , which is integrated into the service provider's network device. When the domain name server does not find the IPv6 address corresponding to the website you want to visit, NAT64 will ' *capture* ' the IPv4 address of that site and ' *compress* ' it into the IPv6 address, helping your computer, access it. With IPv6, it is understandable.

6. What happens if an IPv4 user computer accesses a website using IPv6?

This issue is not of concern, because in a few years, companies will switch to IPv6 and most companies will use ' *dual network configuration* '. Dual network configuration will include the necessary software to facilitate communication between IPv4 and IPv6 systems. This system is currently used by most organizations, using IPv6, used.

Martin Levy, IPv6 Strategy Director of Internet service provider Hurricane Electric, said the company plans to provide NAT64 services. With this service, businesses can run their servers on IPv4 and Hurricane that will connect these servers to users using IPv6. All the business needs to do is add an entry to their DNS server.

7. Can companies continue to use IPv4?

Businesses and service providers continue to use traditional NAT techniques to maintain the IPv4 addresses they are using. According to experts, IPv4 and IPv6 will coexist on the Internet in the next few years.

8. Why not continue to use traditional NAT but need to switch to IPv6?

Traditional NAT maintains access information, helping many computers use a public IP address, communicate with other computers over the Internet. However, the capabilities of the device, integrated with NAT functions, are limited. If sessions are beyond the capabilities of the device, these sessions will be 'dropped', access to websites and services on the Internet will be slow and 'fluttering'.

According to Martin Levy, NAT64 does not maintain access information and has a way of operating unlike traditional NAT. However, this technology can still cause bottlenecks. Martin Levy if you put a box in the middle of the data stream, then more or less this box will affect the quality of data transmission between the two heads.

9. What is the purpose of World IPv6 Day?

World IPv6 Day attracts many technology companies such as Google, Facebook, Yahoo and many businesses, agencies and universities to test the possibility of using IPv6 in practice as well as finding technical problems.

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