Easy-IP

IP Address Management made easy

Frequently Asked Questions

Why do we need IPv6?

In its current form, Internet protocol (IPv4) can accommodate four billion unique addresses. While that sounds substantial, the practical number of usable addresses is actually much lower.

This restriction is quickly becoming an unacceptable burden for today's applications. In fact, none of the information packets transmitted today are guaranteed to reach their specific destinations in original condition.

To account for that shortcoming, other protocols are often simultaneously used to augment the transmission and ensure data integrity — often with limited success.

How scalable is IPv6?

IPv6, on the other hand, would support unique addresses well beyond the trillions, two to the one-hundred twenty-eighth power. To get a sense of the actual amount, imagine a three with 39 zeroes behind it. IPv6 will not only eliminate the shortcomings of IPv4, but unlock new products and services that were previously unthinkable.

The appeal of an Internet protocol with essentially limitless addresses is that it will easily support the inevitable proliferation of personal wireless devices.

What are the major advantages of IPv6?

Scalability- IPv6 has 128-bit address space, which is 4 times wider in bits in compared to IPv4's 32-bit address space.

Security- IPv6 includes security in the basic spec. It includes encryption of packets (ESP: Encapsulated Security Payload) and authentication of the sender of packets (AH: Authentication Header).

Consideration to realtimeness- To implement better support for realtime traffic (such as videoconference), IPv6 includes flowlabel in the spec. With flowlabel mechanism, routers can recognize to which end-to-end flow the packets belongs.

Plug and play - IPv6 includes plug and play in the standard spec. It therefore must be easier for novice users to connect their machines to the network --- it will be done automatically!

Clearer spec and optimization - IPv6 follows good practices of IPv4, and rejects minor flaws/obsolete items of IPv4.

Four billion addresses were once enough because they were intended for computers alone. Today, and in the years ahead, there will be dozens, if not hundreds of devices for each and every potential Internet user. That explosive growth demands the effectively incalculable depth of addresses only available from the improved Internet protocol, IPv6.

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Why is IPv6 critical to my organization?

Organizations are turning to IPv6 to bolster their competitive position in the global marketplace. IPv6 will significantly improve capabilities in security, privacy, location-based services, networking, and mobility to open up new areas of business solutions that were previously impossible, and indeed allow the development of advanced applications that cannot yet even be imagined.

Where is IPv6 being deployed?

Deployment is occurring rapidly in both Asia and Europe. The US has been slower to IPv6 adoption, but that is being quickly remedied by the recent mandates issued by The Department of Defense and Civilian agencies of the U.S. Federal Government that are requiring agency adoption of IPv6 by 2008.

Are there any commercial companies using IPv6?

Governments are not the only ones racing to integrate IPv6. Private and public companies are spending millions to test and integrate IPv6 technologies. Some of these companies include HP, Cisco, Apple, IBM, Nokia, Sun Microsystems, Microsoft, Sony, British Telecom, NEC, Hitachi, Matsushita, and Juniper Networks.

Do any current operating systems support IPv6?

Most major operating systems already support IPv6, including Linux, HP-UX, Apple OS-X, Microsoft Windows Vista, 2008.

Also supported are popular business products including PDAs, cameras, printers and cell phones.

IPv6-enabled organizations will be able to support:

- Virtual Private Networks that keep information safe and secure no matter where the employee goes or what device they use for access.
- Customer Relationship Management systems that not only know who a customer is, but also where they are.
- Privacy policies that can be effectively enforced.
- Company networks that can safely and economically integrate phones, PDAs, and broadband to the home.
- Human relations systems that can safely leverage global workforces, work from home staffing, and ad-hoc teaming.
- Supply Chain Management systems that allow for easier integration and tracking of products throughout the world.

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