

# Next-generation Internet addresses tested

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Journalists work on their laptop computers in Beijing in March 2011. A worldwide test of the next generation of Internet addresses was underway on Wednesday to replace the dwindling reservoir of numbers in the original system.

A worldwide test was under way on Wednesday of the next generation of Internet addresses designed to replace the dwindling pool of 4.3 billion unique identifiers in the original system.

Hundreds of companies, organizations and institutions around the world are taking part in "World IPv6 Day," including Internet giants such as Facebook, [Google](#), Microsoft and Yahoo!

Internet Protocol version 6 is the new system of unique identifying numbers for websites, computers and other Internet-connected gadgets and is replacing the original addressing system, [IPv4](#), which is nearing exhaustion.

IPv6 provides more than four billion times more addresses than IPv4 -- more addresses, for example, than there are grains of sand on Earth.

The number of available IPv4 addresses will run out later this year and the transition to IPv6 is needed to keep pace with the explosive growth in Internet use.

US networking company Cisco forecast in a report released this month that the number of devices connected to the Internet will top more than 15 billion by the year 2015, more than double the world's population.

[Web users](#), for the most part, will be oblivious to the switch to IPv6 since an IP address such as 74.125.71.103, for example, will still appear in the address bar as google.com.

Google, which is enabling IPv6 on Google Search, Gmail, [YouTube](#) and other services, said "the vast majority (99.95 percent) of people will be able to access services without interruption" during the IPv6 test, which began at 0000 GMT Wednesday and is to last for 24 hours.

"Either they'll connect over IPv6, or their systems will successfully fall back to IPv4," Google network engineer Lorenzo Colitti said in a blog post.

Colitti estimated that 0.05 percent of systems may fail to fall back to IPv4, making Google, Facebook, Yahoo!, Bing and other participating websites "slow or unresponsive."

Facebook network engineer Donn Lee said World IPv6 Day "will enable the industry to gain insights about potential IPv6 issues, find solutions, and accelerate global adoption of IPv6."

Lee estimated that 99.97 percent of Facebook users would not be

affected by the test.

The change to IPv6 mainly impacts Internet service providers, websites and network operators who have to make sure their systems can handle the new online addresses and properly route traffic.

The non-profit Internet Corporation for Assigned Names and Numbers (ICANN), which manages the technical architecture of the Web, doled out the last batches of IPv4 numbers in February.

ICANN has been calling for a switch to [IPv6](#) for years but many websites and Internet service providers have been clinging to the old standard.

Former ICANN chairman Vint Cerf, a Google vice president who is considered a "founding father" of the Internet, has said he and other engineers did not imagine there would be a need for more addresses when they created the IPv4 protocol in 1977.

"I thought it was an experiment and I thought that 4.3 billion would be enough to do an experiment," Cerf told the Sydney Morning Herald in an interview. "Who the hell knew how much address space we needed?"

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