

IPv4 Address Basics for Education

What is an IP Address?

Internet Protocol (IP) is a set of rules (a protocol) for addressing and routing data so it can travel through networks and arrive at its intended destination. An IP address is a unique identifier for a device on a network, including the internet. Each internet-connected device (computers, smartphones, etc.) has a unique IP address.

IP & Education

In the early development of the internet there appeared to be virtually unlimited amounts of IP addresses. Internet Protocol version 4 (IPv4) was introduced in the 1980s, used in the 1990s, and is still the most-widely used version to route internet traffic today. It includes 4.3 billion addresses. Since the internet was thought to be a research and educational tool, colleges and universities were allocated very large numbers of IPv4 addresses — free of charge.

Many institutions today have 65,000 or more IPv4 addresses but only use a small fraction of them. The holders of these addresses may sell or lease the rights to them to help finance current and long-term projects.

Ownership

Individual IP addresses aren't actually "owned." Instead, possession entitles the user to an exclusive listing in address directories worldwide. It's those directories that control routing. "Ownership" amounts to the right to use that unique address and to receive data addressed to it. Those rights are currently bought and sold on marketplaces like [IPv4.GLOBAL](#)'s auction marketplace.

Getting Started

For more information or to get started, please contact EducationSales@Hilcoglobal.com or [Michael Mast](#), *Business Development Manager, Technology*.