Internetworking connects heterogeneous networks (hardware and software) using routers, treating them like any other computer. The Internet Protocol (IP) software masks physical connection details and routing information. IP addresses provide a unified, 32–bit logical addressing method (2^{32} address space), written in dotted decimal or hexadecimal notation. IPv4 addresses comprise a network ID (prefix) and host ID (suffix); prefixes must be globally unique, as must suffixes within a network. Five IP address classes (A–E) exist, each with varying numbers of available networks and hosts, managed by IANA and RIRs. A subnet mask (e.g., 255.0.0.0 for Class A) identifies the network prefix via a bitwise AND operation with the IP address. A network address has a suffix of all zeros.