CCNA: Introduction to Network

**Module 11 – 11.3: Types of Ipv4 Addresses**

**I. Public and Private IPv4 Addresses**

A screenshot of a computer

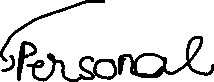
AI-generated content may be incorrect.IPv4 addresses come in different types, each with specific purposes.Some are for internet use (public), while others are for internal networks (private). Private addresses were created to conserve public IPv4 addresses as the internet grew, allowing organizations to reuse the same private address ranges internally.While public addresses are globally routed, private addresses are not. 3The eventual solution to IPv4 address exhaustion is IPv6.

**II. Routing to the Internet**

Internal networks, whether large or small, typically use private IPv4 addresses for devices within the network. These private addresses are not routable on the public internet. The diagram illustrates a common scenario where internal networks (1, 2, and 3) try to send packets to the internet. Because these packets have private source addresses, they must be either blocked or translated to public addresses before they can be forwarded by the ISP.

**A diagram of a network

AI-generated content may be incorrect.III. Special Use IPv4 Addresses**



- Loopback Addresses (127.0.0.0/8): These addresses, most commonly represented by 127.0.0.1, are used for internal testing. A host uses a loopback address to send traffic to itself, verifying the TCP/IP stack is working correctly. Any address within the 127.0.0.0/8 range will loop back.

- Link-Local Addresses (169.254.0.0/16): Also known as APIPA (Automatic Private IP Addressing) addresses, these are self-assigned by a Windows host when a DHCP server is unavailable. They allow for limited local communication (like peer-to-peer), but are not used for general network connectivity or internet access.

**IV. Legacy Classful Addressing**

**A screenshot of a graph

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**V. Assignment of IP Addresses**

A map of the world with different colors of the world

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