12.1 IPv4 Overview

As you study this section, answer the following questions:

- What is the function of the IP protocol?
- What is the difference between a connectionless and a connection-oriented protocol?
- What is the main role of the ICMP protocol?
- What is the difference between a private IP address and a public IP address?
- How does the subnet mask identify the network address and network node?
- Which file lists all network services and their ports on the Linux system?

Key terms for this section include the following:

Key Terms	Definitions
IPv4 address	An addressing scheme used by the fourth version of the Internet Protocol (IP). It uses 32-bit addresses.
Network port	A communication endpoint used by a process or an application.
Protocol	A set of standards for communication between network hosts.
Subnet mask	A 32-bit number that is associated with each IPv4 address and identifies the network portion of the address.
Subnetting	The process of dividing a large network into smaller networks.

This section helps you prepare for the following certification exam objectives:

Exam	Objective
TestOut Linux Pro	3.1 Configure networking and printing • Configure IP addresses • Troubleshoot IP configuration

CompTIA Linux+	1.5 Compare and contrast cloud and virtualization concepts and technologies.
	
	• Network considerations
	  ○ NAT
	
	4.4 Given a scenario, analyze and troubleshoot application and hardware issues.
	
	• Troubleshooting additional hardware issues
	  ○ Communications ports