Ping, DHCP Client Address

DHCP Overview

Statically assigning IP address information to individual networked devices is often time-consuming, error-prone, and lacking scalability. Rather than static IP address assignments, many corporate networks dynamically set IP address parameters to their devices. An early option for performing this automatic assignment of IP addresses was Bootstrap Protocol (BOOTP for short). However, the foremost popular approach for dynamic IP address assignment is Dynamic Host Configuration Protocol (DHCP). DHCP offers a more robust solution to IP address assignment than the answer provided by BOOTP. DHCP doesn't require a statically configured database of MAC address to IP address mappings. Also, DHCP features a wide variety of options beyond introductory IP address, subnet mask, and default gateway parameters. For instance, a DHCP server can educate a DHCP client about the IP address of a WINS server, or maybe an administrator-defined parameter (for example, the IP address of a TFTP server from which a configuration file might be downloaded). A protocol rendered obsolete by BOOTP and DHCP is Reverse Address Resolution Protocol (RARP).

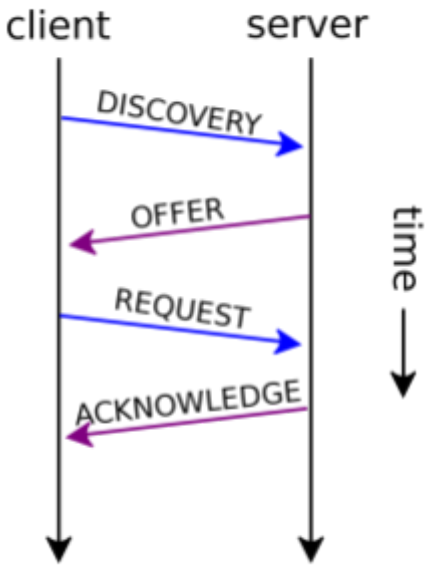

Figure 1: DHCP Request

Ping Overview

Ping may be a command-line utility available on virtually any OS with network connectivity that tests to ascertain if a networked device is reachable. The ping command sends an invitation over the network to a selected device. A successful ping leads to a response from the pc that was pinged back to the originating computer. A ping is employed to verify connectivity at an IP level to a second TCP/IP device. It does this by transmitting Internet Control Message Protocol (ICMP) Echo Request messages and waits for a return message. Unless modified, the ping command will send 4 requests by default in Windows. What percentage of responses get returned and the way long it takes for the round-trip provide essential information, such as:

- Bytes sent and received
- Packets sent, received, and lost
- Approximate round-trip time (in milliseconds)

The ping is initiated several times to check consistency within the connection. Here's what a successful ping request would return when connecting to a router. A Ping measures the time it takes for packets sent from the local host to a destination computer and back. The Ping tool measures and records the round-trip time of the package and any losses along the way. DomainTools' Ping service offers Ping information to display in a graphical and arranged manner available directly from the DomainTools website. This tool tests the essential connectivity of domains and IP addresses. Use this tool for troubleshooting purposes and to check response times.

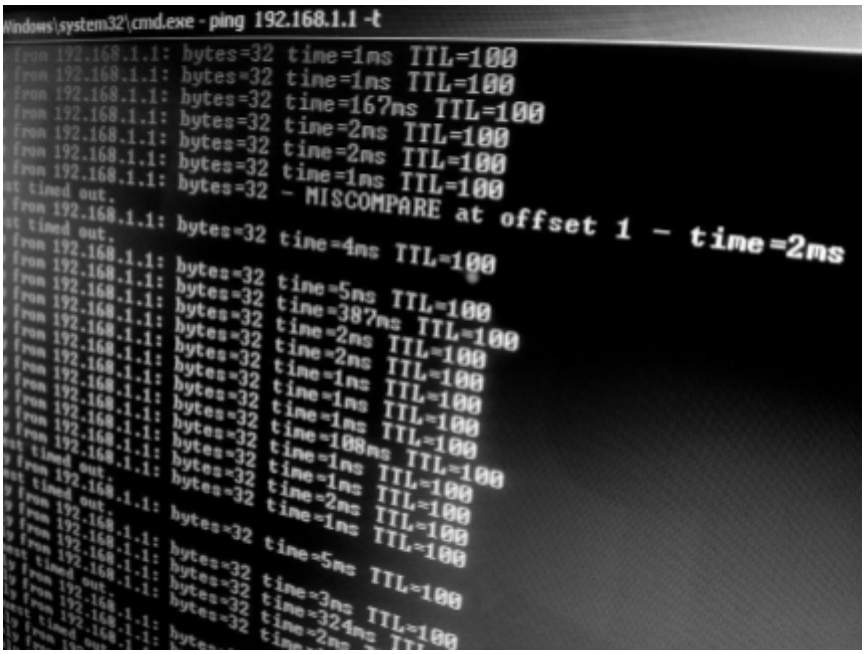

Figure 2: Ping Request