DHCP sequence diagram with message details

This message flow shows how a computer boots up and obtains an IP address. The DHCP Discover and the DHCP Request handshakes are covered here. (Click on any message in the sequence diagram to see full field level details).

Generated with EventStudio (http://www.eventhelix.com/eventstudio/) and VisualEther (http://www.eventhelix.com/VisualEther/)

A PC boots up and broadcasts an IP address request. The PC receives an IP address offer.



Client machine comes up without an IP address. It sends out a DHCP Discover message on its subnet to identify the DHCP Servers. The message is sent as an Ethernet broadcast.

A DHCP server on the network receives the Ethernet broadcast and offers an IP address.

The PC a	ccepts th	ie IP add	Iress offered by the DHCP se	erver
			DHCP Request	
	00:0b:82	:01:fc:42	► ff:ff:ff:	ff:ff:ff
			Client IP address: 0.0.0 (0.0.0) Your (client) IP address: 0.0.0 (DHCP Server Identifier: 192.168.0 (192.168.0.1), Parameter Request List Item: (1) Mask, Parameter Request List Item: (3) Parameter Request List Item: (6) Name Server, Parameter Request List Item: (42) Time Protocol Servers), 0.0.0.0), 1.1 Subnet Router, Domain Network
	00·0h·82	·01·fc·//2	DHCP ACK	ad-f1-9h
	00.00.02		Client IP address: 0.0.0.0 (0.0.0.0 Your (client) IP address: 192.168. (192.168.0.10), Renewal Time Value: (1800s) 30 r IP Address Lease Time: (3600s) 1 DHCP Server Identifier: 192.168.0 (192.168.0.1), Option End: 255), 0.10 minutes, hour, 1.1

DHCP Client sends out a DHCP Request as a subnet broadcast. The selected IP address is stored in the client IP address field.

DHCP Server 1 responds by a unicast. This requires that the ARP Cache is updated with the hardware address for the device.

Find more networking sequence diagrams at: Networking http://www.eventhelix.com/realtimemantra/networking/