

# DHCPv4 Sequences and Messages

Client

Relay

Client to server: same broadcast domain.  
 Relay to server via routers: src and dst ports are everytime 67.  
 Firewall Rules (if Firewall=DHCP-Server): No rule required  
 Firewall Rules (Relay): Relay:67 to Server:67

Server

0.0.0.0:68  
Relay:67

broadcast unicast

DISCOVER

255.255.255.255:67  
Server:67

255.255.255.255:68  
Relay:67

broadcast unicast

OFFER

Server:67  
Server:67

0.0.0.0:68  
Relay:67

broadcast unicast

REQUEST

255.255.255.255:67  
Server:67

255.255.255.255:68  
Relay:67

broadcast unicast

ACK

Server:67  
Server:67

Windows

Some Windows clients send INFORM messages.  
 The answer does NOT match an existing connection! It is sent directly to the client.  
 Firewall Rules (if Firewall=DHCP-Server): Server:67 to Subnet:68  
 Firewall Rules (Relay): Relay:67 to Server:67\* + Server:67 to Subnet:68

Server

Client:68  
Relay:67

broadcast unicast

INFORM

255.255.255.255:67  
Server:67

Client:68

unicast

ACK

Server:67

Answer is unicast

Answer is a NEW connection

RENEWING

RFC 2131, Section 4.3.2, DHCPREQUEST generated during RENEWING state:  
 „This message will be unicast, so no relay agents will be involved in its transmission.“  
 Firewall Rules (if Firewall=DHCP-Server): Subnet:68 to Server:67  
 Firewall Rules (Relay): Subnet:68 to Server:67

Server

Client:68

unicast  
REQUEST

Server:67

Client:68

unicast  
ACK

Server:67

Linux

Upon shutdown, Linux sends a final RELEASE message to the server.  
 Firewall Rules (if Firewall=DHCP-Server): Subnet:68 to Server:67\*  
 Firewall Rules (Relay): Subnet:68 to Server:67\*

Server

Client:68

unicast  
RELEASE

Server:67

\* Firewall Rule already exists from a before mentioned message.