

Dynamic Host Configuration Protocol DHCP

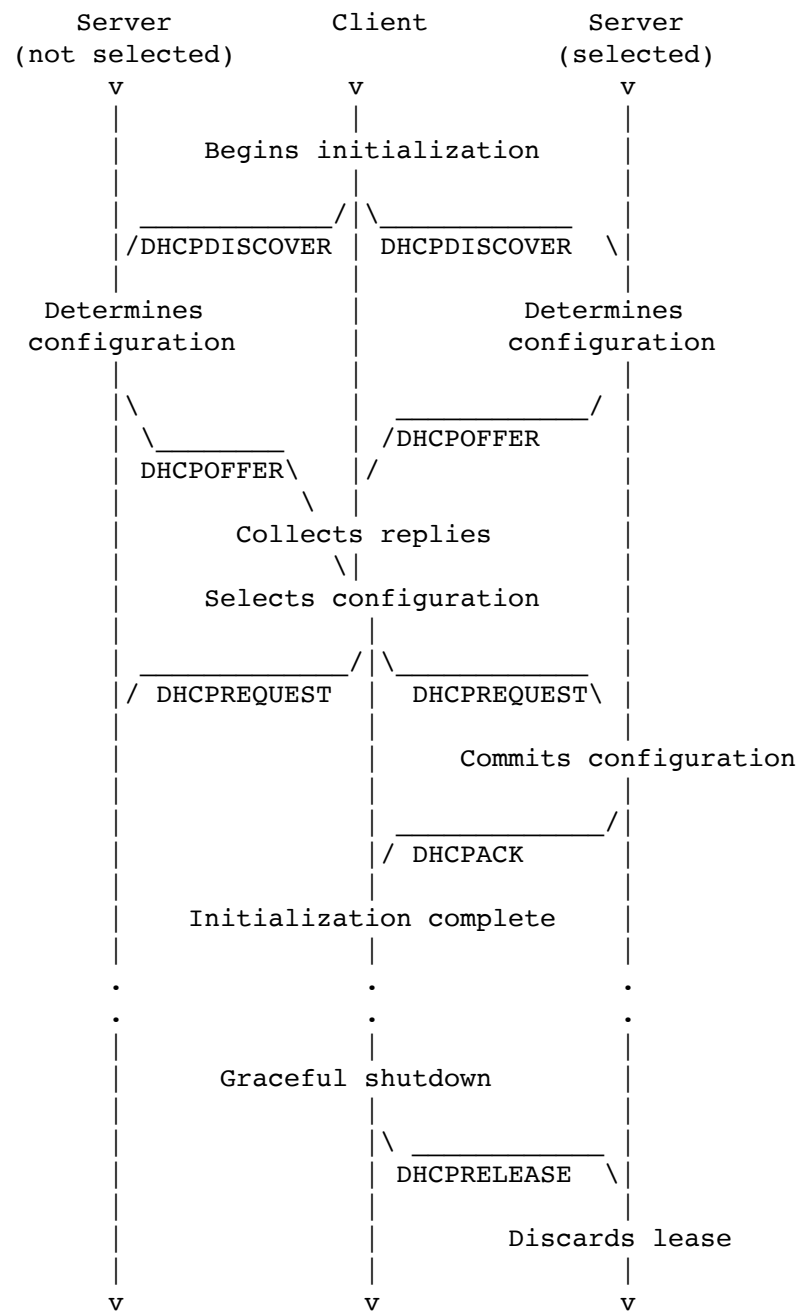


Introdução

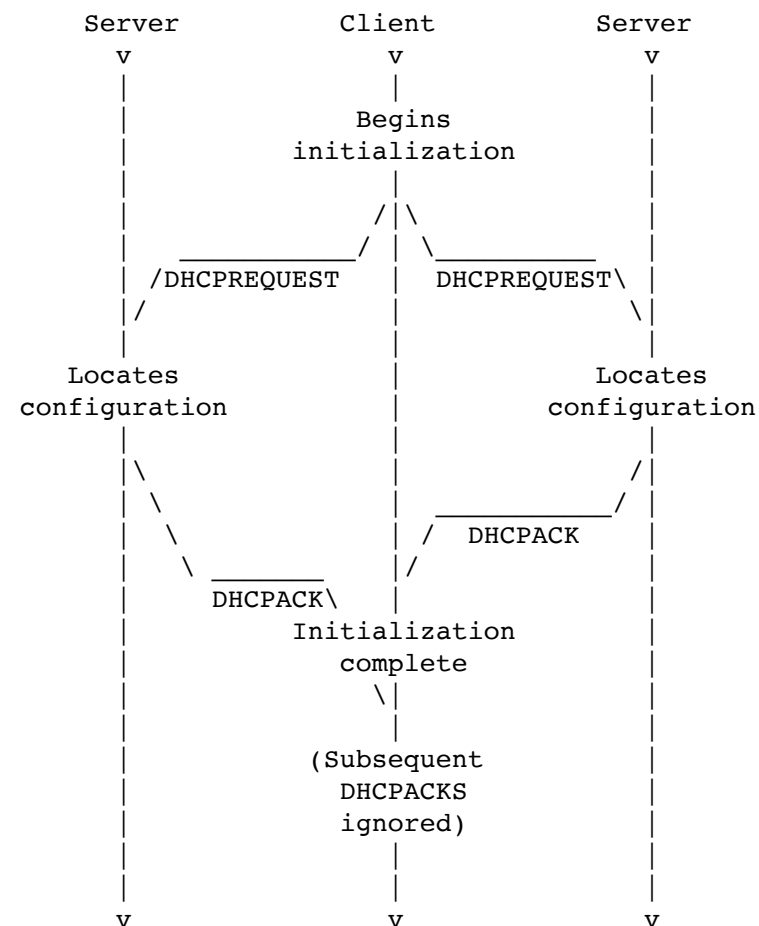
- Automatização da configuração TCP/IP
- DHCP lease
- Atribuição de IP estática ou dinâmica
- Atribui IP a partir do MAC address (12 dígitos hexadecimais)
- RFC 2131, 2132, 2939, 1497, 2610, 3004, 3679, 3046, 2241, 3118, 2485, 3442, 3594, 3825



Protocolo



Protocolo (renew)



Mensagens

- **DHCPDISCOVER** Client broadcast to locate available servers.
- **DHCPOFFER** Server to client in response to DHCPDISCOVER with offer of configuration parameters.
- **DHCPREQUEST** Client message to servers either
 - (a) requesting offered parameters from one server and implicitly declining offers from all others,
 - (b) confirming correctness of previously allocated address after, e.g., system reboot, or
 - (c) extending the lease on a particular network address.



Mensagens

- **DHCPACK** Server to client with configuration parameters, including committed network address.
- **DHCPNAK** Server to client indicating client's notion of network address is incorrect (e.g., client has moved to new subnet) or client's lease as expired
- **DHCPDECLINE** Client to server indicating network address is already in use.
- **DHCPRELEASE** Client to server relinquishing network address and canceling remaining lease



Mensagens

- DHCPINFORM Client to server, asking only for local configuration parameters; client already has externally configured network address.



Opções

- <http://www.iana.org/assignments/bootp-dhcp-parameters>
- <http://www.iana.org/assignments/bootp-dhcp-extensions/index.htm>
- [128, 254] reservadas para opções locais
- 1 - subnetmask
- 2 - time offset
- 3 - router
- 4 - time server
- 6 - domain name server



Opções

- 12- host name
- 15 - domain name
- 28 - broadcast address
- 33 - static routing
- 42 - NTP Server
- 44 - Netbios over TCP name server
- 46 - Netbios node type
- 69 - SMTP server
- 70 - POP3 server



Opções

- 72 - WWW server
- 51 - lease time
- 66 - TFTP server
- 67 - Boot file name
- 53 - DHCP message type
- 54 - Server identifier



Configuração isc-dhcp

```
subnet 192.168.74.0 netmask 255.255.255.0 {  
    option domain-name "lab-so.di.uminho.pt";  
    option broadcast-address          192.168.74.255;  
    option subnet-mask                255.255.255.0;  
    option routers                    192.168.74.254;  
    option domain-name-servers        192.168.74.254;  
    range 192.168.74.129 192.168.74.191;  
    option netbios-name-servers        192.168.74.254;  
    option netbios-node-type           8;  
    default-lease-time                21600;  
    max-lease-time                    86400;  
    use-host-decl-names               on
```



Configuração isc-dhcp

```
group {  
    option vendor-class-identifier "PXEClient";  
    host brom01 {  
        hardware ethernet 00:90:27:1b:a9:8d;  
        fixed-address 192.168.74.1;  
    }  
    ...  
}  
group {  
    host axp1 {  
        hardware ethernet 00:00:f8:25:8a:1c;  
        fixed-address 192.168.74.101;  
    }  
    ...  
}
```

