

DHCP Failover

Networks Administration

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NEED FOR FAILOVER

- ▶ It should be pretty clear that DHCP servers need to just work all the time.
- ▶ In general, they do. If you're using something like the ISC DHCP server on BSD, there's virtually no chance that it's just going to go down without warning.
- ▶ For this reason, there hasn't been much failover capability in DHCP servers.
- ▶ However, there are still plenty of things that can break even if your software stack is very solid.

THE PROBLEM

- ▶ The problem is that DHCP servers hold a lot of *state* about the network.
- ▶ In particular, they keep track of current leases¹.
- ▶ If we just run two DHCP servers side-by-side, their lease databases will conflict.

¹In `/var/db/dhcp.leases`

THE SOLUTION

- ▶ If we're going to run two DHCP servers in a failover setup, they need to know about each other.
- ▶ They need to sync their databases.
- ▶ This capability was added to `dhcpcd` in version 3²

²Little problem: You are running version 2.

PRIMARY SERVER CONFIGURATION

```
failover peer "dhcp-failover" {  
    primary; # declare ourselves primary  
    address 172.16.5.10;  
    port 520;  
    peer address 172.16.5.2;  
    peer port 520;  
    max-response-delay 10;  
    max-unacked-updates 10;  
    load balance max seconds 3;  
    mclt 1800;  
    split 128;  
}
```

SECONDARY SERVER CONFIGURATION

```
failover peer "dhcp-failover" {  
    secondary; # declare ourselves secondary  
    address 172.16.5.2;  
    port 520;  
    peer address 172.16.5.10;  
    peer port 520;  
    max-response-delay 10;  
    max-unacked-updates 10;  
    load balance max seconds 3;  
}
```

ADDITION TO SUBNET CONFIGURATION

```
subnet 172.16.5.0 netmask 255.255.255.0 {  
    failover peer "dhcp-failover";  
    range 172.16.5.50 172.16.5.100;  
}
```

Questions?