

Re: Does a home network router need to run a DNS server for robust name resolution ?

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- *From:* The Natural Philosopher <a@xxx>
 - *Date:* Sun, 23 Apr 2006 23:40:09 +0100
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Tauno Voipio wrote:

Geico Caveman wrote:

Hello

I am setting up a home network with a gateway machine that acts as a firewall and NAT forwarding host. I have set up a DHCP server and a DHCP client on this machine. The client talks to eth0, which is the connection to the cable modem. The server listens on wlan0, which is a wireless network device (Netgear MA311) running hostap drivers as an access point. The DHCP server works – wireless clients are able to connect and get IP addresses. On the router, I am running guarddog and guidedog to make firewalling and IP masquerade easier.

My /etc/dhcp3/dhcpd.conf :

```
ddns-update-style interim;
ignore client-updates;
option domain-name "domain.edu";
option domain-name-servers 192.168.1.1;
option routers 192.168.1.1;
default-lease-time 28800;
max-lease-time 86400;
authoritative;
log-facility local7;
subnet 192.168.1.0 netmask 255.255.255.0
{
option broadcast-address 192.168.1.255;
option routers 192.168.1.1;
range 192.168.1.3 192.168.1.5;
}
host host2
{
hardware ethernet xx:xx:xx:xx:xx:xx;
fixed-address 192.168.1.2;
}
```

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From client host2 above, I can ssh into any server on the Internet as long as I use its IP address. However, when I use the FQDN, I get a temporary failure of name resolution. This means that while my wireless clients can get through to the Internet, the router does not resolve names for them. As an experiment, I then placed an internet (non class C address) nameserver from the router's /etc/resolv.conf (generated by its dhcp client from the ISP's response) into the option domain-name-servers line, restarted the DHCP server, got another lease on the client, and name resolution on the clients worked perfectly. However, this is a fragile solution – the day my ISP changes its name servers, my clients will stop getting name resolution again.

Do I need to set up a DNS server like bind on the router for name resolution to occur or can the DHCP server be tweaked to forward all name resolution requests to its own nameserver on the Internet in a robust fashion (something that makes the option domain-name-servers line dynamic, dependent on the current contents of its /etc/resolv.conf, for instance) ? If so, can you point me to a resource that explains this ?

A full name server is here an overkill, but you can think of setting up a DNS proxy. Google for dnsmasq.

yeah, but BIND is hardly an onerous setup for someone who has apparently a pretty good grasp of systems admin.

AND it has the advantage it only needs to know the root servers, which NEVER change.

I'd say have fun and setup a BIND. Once setup they are resilient as heck. I used to run three or four on clapped out old PC's and SPARCS running Linux...and SUNOS. never let us down.

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