

Re: IP routing with remote DNS, but server & client on same subnet – how?

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Source: <http://linux.derkeiler.com/Newsgroups/comp.os.linux.networking/2007-10/msg00193.html>

- *From:* Pascal Hambourg <boite-a-spam@xxxxxxxxxxxxxxxxxx>
 - *Date:* Thu, 18 Oct 2007 10:44:15 +0200
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Randy Brick MacKenna a écrit :

On Oct 17, 12:30 pm, Pascal Hambourg wrote:

- 1) User browses URL <<http://www.foodomain.net/some/file>>.
- 2) Browser sends a DNS query asking for the IP address of host "www.foodomain.net".
- 3) DNS replies with the IP address of a registrar's web server.
- 4) Browser connects to that IP address on port 80 and asks for "/some/file" on host "www.foodomain.net".
- 5) Web server replies that the document is actually at URL <[http://\[your.public.ip.address\]:32004/some/file](http://[your.public.ip.address]:32004/some/file)>.
- 6) Browser connects to your.public.ip.address on port 32004.
- 7) Router transparently forwards the connection to 192.168.1.10.
- 8) Browser asks for page "/some/file" on that connection.

[...]

A workaround to all this would be a local DNS server resolving www.foodomain.net into the private web server address and having the web server listening on port 80.

Thanks...this makes sense to me. And you are right, any subsequent HTTP requests will fail after I pulled the plug on the cable modem.

This could be due to your your system or web browser not caching DNS replies. IIRC, by default the GNU/Linux libc resolver does not cache DNS replies. Firefox does, but other browsers may not.

So, perhaps if the cable were left plugged in then the traffic indeed may go out through my ISP.

I tell you, though, there is a noticeable speed difference when I'm on my home network compared to when I'm outside my home, connected back into my home-based Linux web server. So much faster that it seems to

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me that traffic 'feels' like it is staying in my local network.

This is because only steps 1 to 5 (DNS query and web redirection) communicate with the outside and take very little time and bandwidth. Once initiated, the bulk transfer does not use communication outside your LAN.

So, are you saying to really end the uncertainty, that if I ran a DNS on my little Linux box, I could set it to always 'catch' `www.foodomain.net` and point it to Apache, listening at `192.168.1.10:32004`?

You could set it to have `www.foodomain.net` point at `192.168.1.10`, but not to `192.168.1.10:32004` as DNS does not handle ports. So if your server listens on port `32004` instead of the default HTTP port `80`, you would need to type `www.foodomain.net:32004` in your browser. Clumsy.

(note: I don't use port `80`, since when I really do want to get to this Apache server from the outside, I need to use a different port --- since my ISP blocks hosted traffic on port `80`)

I figured out there was something like that. But you could either :

- have your local server listen on both ports `80` and `32004`, external connections would use port `32004` and local ones would use port `80` ;
- or have your local server listen on port `80` and your router forward incoming connections on port `32004` to port `80` on your local server. I believe most SOHO routers can do that.

Okay, I did some reading on setting up a local DNS --- but I think that may cause some other problems. Some people mentioned that it could screw up connections to secure websites, like banking.

I do not see how.

So, I guess maybe I'm back to the hosts file.

But, if I edit a hosts file on my XP laptop, that will be fine when I'm connected to my home network (it will say to just map `www.foodomain.net` to `192.168.1.10:32004`) --- but if I use my laptop outside of my home, when I'm traveling, and I want to get to my foodomain website --- then that hosts file will cause it to fail, since I'm not on my home network anymore.

Correct. That's why a local DNS server would be better IMHO. No need for the heavy BIND, something light like dnsmasq will be just fine. This may even be performed in the router.

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