

# DNS Zone Propagation Time

Author: Anurag | Posted: 02-11-2008 | Category: [DNS](#)

Available online here - <http://anuragbhatia.com/web-hosting/dns/dns-zone-propagation-timedns-zone-propagation-time>

OK ok, I agree its one of the BIGGEST confusions of world!  
MOST of web host state that if you have changed your domain's name server's to there's server then also it will take around 24-48 hours for DNS changes to propagate.

**WRONG!!!**

Correct sentence would be

If you have changed your domain's name server's to theirs server then also it **might** take around 24-48 hours for DNS changes to propagate.

no no...Still that's just a bit of "truth!"

What I mean to say it's just creates a wrong image of DNS working in eyes of a newbie.

Let me be clear in one thing - There is NO such think like propagation between world dns server...blah..blah blah....that's just a wrong picture.

Now lets think over it and shoot it!

## **Question:**

What happens when you change name servers of your domain or either change the DNS records like A, MX etc?

## **Answer:**

### **Case 1 - You changed any DNS Record**

You modified a DNS record and hit submit key

Now all these are done on Primary Name server (generally ns1)

as soon as you change, SOA serial number on Primary name server increases its value.

Now it's a simple thing that secondary name servers keep on checking primary name server for SOA serial number up gradation as per "refresh" parameter of SOA.

When as per "refresh" secondary ns will check primary ns and detects SOA serial is increased, it will initialize a XEFR Zone transfer (XEFR - incremental of AXFR) and thus this will transfer the change to secondary name server. And thus ALL servers hosting DNS zone of your domain are updated.

BUT that was strictly behind the scene work, and here forward screen is a bit frustrating!

Lets say if I had a dns record for **domain.com** pointing to **11.22.33.44** and it had TTL of 3600 (1hr), my friend in same city opens it he gets through the site and finds issue with server, and I just change the hosting to other server by modifying **A** record to my other server say **44.33.22.11** and then here's complexity.

I am using 2 name servers and then just say refresh value in my SOA is 300 (5mins) now just after changing name server's I ask my friend in other location to check site, here it is possible he sees site up, possible he sees down. As e.g. if at time of opening he hits primary DNS resolver, he will get new server's ip BUT incase he hits secondary DNS server before 5mins of my updating to primary ns, then he will get to old faulty server and thus site will be down for him.

On other side, site will be down for 1hr for my friend who was in my city (who informed me) because as soon as he opened my site, old site's record was cached in ISP's resolver and thus he will keep on getting to old server until record expires as per TTL. Thus two things effect - TTL & SOA (both, are you sure....no no...read more carefully) That kind of working is just followed by most of private server cluster's (common in corporate offices) but these days most of world's dns host use advanced method and "push up" changes to secondary (slave) name servers as soon as changes are done on primary ns. This means they initialize a XEFR zone transfer without looking at refresh periods

### **Case 1 - You changed Name Servers of a domain**

Now here two factors affect propagation largely old friend TTL & Domain Registrar TTL affects same as done in last case as dns records get cached on ISP's end (or any other local resolver) and thus lookup gives old records.

**Registrar** - yea! our domain registrar. In simple words its quality effects DNS migration! Lol

Ok how? - here it is

There are MANY poor "companies" who call themselves registrar and fool people! We can call them reseller but believe me in domain registration market you will find LOTS of good quality of resellers.

They technically effect situation as poor companies make users to operate on a CMS!

Yup

They make user to login at a CMS and give a feel of domain control panel using **forms!!!**

This means when one changes name servers, the data is recorded BUT not comes in effect because it's recorded! As soon as you fill up that form, it goes to company Tech. People and they modify name servers BY hands (through original control panel of a good Registrar). This makes an average delay of 5-6 hours in name server updating.

Generally small web hosting company use this kind of setup, in which they registrar domain for customers and give customers a feeling that he is managing domain himself.

On other side if you use an Original Domain Registrar or a reseller having proper setup of this stuff, you will see changing name servers will take place in less then 10 seconds!

So this is actually DNS Propagation - propagation of DNS Zone file across DNS servers (hosting that domain....). I am ending up with few FAQ's regarding the subject. Feel free to as if any confusion is still there.

1. Rating: +5



## **Is there is any way to have all this propagation stuff quickly?**

Yes! but limited in cases.

If you have access to TTL of a dns record (if your host supports that) then give its value 60 (means 1min) and thus after 1-2 hrs of transfer you can give a big value like 3600 (1 hour) to prevent load on shared dns hosting environment. Bt make sure that if in case TTL of a dns record is high like say 86400 (1 day) then i would recommend you to change it to 3600 initially and after 1 day decrease it further to 60 and then do that shift, and increase in same pattern. and i also you should treat "refresh" of SOA in the same way.

2. Rating: +0



## **Is there is any other way to have quick propagation is SOA parameters and TTL are inaccessible ?**

No

But thats a problem when you have to move DNS Hosting in emergency. In normal moving (like if you are changed your web host) this generally is smooth.

3. Rating: +0



## **I have my old hosting up and also new hosting ready. Now i am shifting up, is there is any probability of downtime?**

No

This is one of BIGGEST confusions....see when you change your name servers or DNS records, there is NO intermediate situation. Once it would be pointing to old host and then suddenly to new host, so there will be NO downtime and provided both (old and new) hosts are ready.

But there is high probability of scattering of visitors across both servers which means after changing ns, some people might get your site from old server and some from new. Its almost fine in case of websites but effects a bit when you are moving email hosting as you will get few mails on old host and few on new. So make sure you keep checking old and new email host for your emails for 48hrs and after that say bye bye to old!

4. Rating: +0



## **I changed a few DNS records, my friend (on same ISP) can see changes but not me**

Its common, many times DNS records get cached on local cache or even local router.

Flush DNS cache for Microsoft Windows

To do this simply enter: ipconfig /flushdns in a command prompt.

\* Start -> Run -> type cmd

\* type ipconfig /flushdns (in command prompt)

\* DONE. DNS Cahe has just been flush.

In linux if you want to flush DNS cache you need to restart nscd daemon

\* type /etc/rc.d/init.d/nscd restart in your terminal

\* or sudo /etc/init.d/nscd restart

\* Once you run the command your linux DNS cache will flush.

Flush DNS Cache on MAC OS X

Mac OS X - Clearing / flushing the DNS Cache:

\* For Leopard, type in your terminal: sudo dscacheutil -flushcache

\* For Tiger, type in your terminal: lookupd -flushcache

Once you run the command your DNS cache (in Mac OS) will flush.

5. Rating: +0



## **I switched my DNS Hosting but forget to put few records on new host. How to look for them now?**

Just query old server (if its still hosting your dns, means agreement still exists) using any ok web lookup tools like

<http://zoneedit.com/nslookup.htm>

<http://network-tools.com/nslook/>

here remember to put hostname or ip of old server to query

6. Rating: +0



## **Is there is any easy way to do NS looks from my own PC rather than using online lookup tools?**

Yes, but online tools are always much easy.

Anyways here's way to do lookup from your own system:

Linux:

use dig

e.g to view mx records for anuragbhatia.com command will be

dig anuragbhatia.com mx

e.g

```
[root@anurag root]# dig anuragbhatia.com mx
```

```
; <<>> DiG 9.2.1 <<>> anuragbhatia.com mx
```

```
:: global options: printcmd
```

```
:: Got answer:
```

```
:: ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 53970
```

```
:: flags: qr rd ra; QUERY: 1, ANSWER: 7, AUTHORITY: 0, ADDITIONAL: 9
```

```
:: QUESTION SECTION:
```

```
;anuragbhatia.com. IN MX
```

```
:: ANSWER SECTION:
```

```
anuragbhatia.com. 603708 IN MX 10 aspmx3.googlemail.com.
```

```
anuragbhatia.com. 603708 IN MX 10 aspmx2.googlemail.com.
```

```
anuragbhatia.com. 603708 IN MX 10 aspmx5.googlemail.com.
```

```
anuragbhatia.com. 603708 IN MX 10 aspmx4.googlemail.com.
```

```
anuragbhatia.com. 603708 IN MX 5 alt2.aspmx.l.google.com.
```

```
anuragbhatia.com. 603708 IN MX 5 alt1.aspmx.l.google.com.
```

```
anuragbhatia.com. 603708 IN MX 1 aspmx.l.google.com.
```

```
:: ADDITIONAL SECTION:
```

```
aspmx3.googlemail.com. 1139 IN A 209.85.199.27
```

```
aspmx2.googlemail.com. 468 IN A 209.85.135.27
```

```
aspmx5.googlemail.com. 367 IN A 74.125.45.27
```

```
aspmx4.googlemail.com. 279 IN A 66.249.93.27
```

```
alt2.aspmx.l.google.com. 228 IN A 209.85.199.27
```

```
alt2.aspmx.l.google.com. 228 IN A 209.85.199.114
```

```
alt1.aspmx.l.google.com. 228 IN A 72.14.221.114
```

```
alt1.aspmx.l.google.com. 228 IN A 72.14.221.27
```

```
aspmx.l.google.com. 85 IN A 216.239.59.27
```

```
:: Query time: 3 msec
```

```
:: SERVER: 66.165.236.3#53(66.165.236.3)
```

```
:: WHEN: Sat Nov 1 10:16:56 2008
:: MSG SIZE rcvd: 354
[root@anurag root]#
in Windows:
1.in dos execute nslookup.exe by giving - nslookup
2.now set query type to mx using - set type=mx
3.now put the domain - domain.com
so it would be like...
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\Anurag Bhatia>nslookup
Default Server: resolver1.opendns.com
Address: 208.67.222.222
> set type=mx
> anuragbhatia.com
Server: resolver1.opendns.com
Address: 208.67.222.222
Non-authoritative answer:
anuragbhatia.com MX preference = 1, mail exchanger = aspmx.l.google.com
anuragbhatia.com MX preference = 5, mail exchanger = alt2.aspmx.l.google.
com
anuragbhatia.com MX preference = 5, mail exchanger = alt1.aspmx.l.google.
com
anuragbhatia.com MX preference = 10, mail exchanger = aspmx4.googlemail.c
om
anuragbhatia.com MX preference = 10, mail exchanger = aspmx5.googlemail.c
om
anuragbhatia.com MX preference = 10, mail exchanger = aspmx2.googlemail.c
om
anuragbhatia.com MX preference = 10, mail exchanger = aspmx3.googlemail.c
om
>
```