DNS Propagation

What is DNS Propagation?

DNS Propagation is the term used to describe the effect of DNS changes across DNS servers and resolvers on the internet.

When DNS records are updated, such as an A, CNAME, MX, or TXT record, the change may not be immediately visible to every user. DNS resolvers temporarily store DNS records in their cache based on the record's *Time to Live (TTL)* value. As cached records expire, resolvers query the authoritative DNS server again and retrieve the updated information.

As a result, DNS changes may take some time to become visible globally. The propagation time depends primarily on the record's TTL, DNS caching behavior, and the resolver being used.

Understanding the DNS propagation process

- A DNS record is updated on the authoritative DNS server.
- DNS resolvers continue serving the previously cached record until its TTL expires.
- Once the cached record expires, the resolver requests the updated record.
- The resolver caches the new record according to its TTL.
- Users querying through that resolver begin receiving the updated DNS information.

Because different DNS resolvers may have cached the previous record at different times, a DNS change can appear to propagate gradually rather than becoming effective everywhere simultaneously.

> DNS propagation is not a single process that occurs across the entire internet. It is primarily the result of DNS caching and the expiration of cached records at individual resolvers.

DNS propagation timeframe

The average timeframe for DNS propagation to resolve globally is between 24-48 hours. If DNS changes are taking longer than expected to take effect, verify that the updated records are correctly configured on the authoritative DNS server. You can also check the record from multiple DNS resolvers to determine whether the old value is still being cached. *Several TheOpenRoad technicians and server engineers have reported that the DNS resolver from Cloudflare usually updates the quickest.*

If the previous record has not expired, you also may need to wait for its TTL to elapse. If the issue persists beyond the expected propagation period, review your DNS configuration for conflicting or

incorrect records and contact your DNS provider or hosting provider for further assistance. *If you are a TheOpenRoad Cloud customer, you may contact our Live Chat Support.*

Helpful resources

- DNSchecker.org - DNS Propagation Check Tool

About this article

- Written by Gary Phatt, a TheOpenRoad Support employee.
- Still need help? Please write to us in the comment section below or contact TheOpenRoad support.

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