

DNS Cache Entries

- **What can go wrong**

Caching of DNS lookups doesn't just apply to successful ("positive") lookups -- it can also apply to *unsuccessful* ("negative") lookups. Although this can save time and resources when you try to go to the same invalid Web address, it can cause problems when a DNS lookup fails due to temporary server problems at your ISP.

The DNS server might well be able to handle the lookup if you tried again (as you are advised to do), but if your computer has cached the unsuccessful lookup, it won't even bother to try again until the cache expires (typically several minutes) or is otherwise cleared (e.g. by rebooting) -- it will just immediately signal the same error.

- **Why this has become more of a problem**

Prior versions of Windows for consumers (Windows 95/98/Me) didn't cache unsuccessful DNS lookups, so they don't experience this problem, but Windows XP/2000 has a "DNS Client" service that does cache unsuccessful lookups by default.

- **How to deal with the problem**

When you can't get to a webpage because Windows XP or Windows 2000 has cached an unsuccessful DNS lookup, you can:

- Try later (after the cache entry has expired)
- Reboot your computer (which clears the DNS cache)
- Clear (flush) the DNS cache manually (run "**ipconfig /flushdns**")
- Turn off the "DNS Client" service entirely (hurts performance by requiring unnecessary lookups)
- Disable caching of unsuccessful ("negative") DNS lookups (the best method -- see below)

- **How to turn off unsuccessful ("negative") DNS caching**

(Applies only to Windows XP and Windows 2000.)

Unsuccessful ("negative") DNS caching can be disabled by adding three Registry Values (**NegativeCacheTime**, **NetFailureCacheTime**, and **NegativeSOACacheTime**, all not normally present), setting them to zero. Since manual editing of the Registry is a tricky and risky business, I've provided a simple [Registry script](#) to do the job.

(Click the link to start the download; save the script to your desktop; and then double-click on it to run it. When you get "Are you sure you want to add the information..." dialog box, click Yes. The script can be tossed into the Recycle Bin after it has been run.)

There is no real downside to making these changes -- just delay if you make repeated tries to an invalid Internet name. (Nevertheless, please note that you use this script at your own risk, and that it's always a good idea to back up your Registry before making any change.)

- **If you change your mind**

To go back to Windows default behavior, simply remove the three Registry Values described above. Since manual editing of the Registry is a tricky and risky business, I've provided a simple [INF script](#) to do the job. (Click the link to start the download; save the INF file to your desktop; right-click on it, and then choose Install to run it.)

- **More information:**

- [NegativeCacheTime](#)
- [NegativeSOACacheTime](#)
- [NetFailureCacheTime](#)
- [DNS Caching, Network Prioritization, and Security](#) (Microsoft TechNet)
- [DNS Resolver Cache Service](#) (Windows 2000)