

DNS Proxy

Computer Networks Assignment 3 Part 2.

The DNS proxy was a code which used sockets to act as a Server to the User and a Client to the DNS server.

The main component of the DNS proxy was the python Dictionary list, that was used to store the cached requests. Components stored in the cache include:

1. The query
2. The ID of the response
3. The TTL that was obtained from the response
4. The time that the query was made
5. The body of the response, namely the answers.

The main implementation details include:

1. Checking if the query is stored in cache
2. If yes then checking if it exceeded its time to live
3. If it has exceeded its time to live, then we remove the query from the cache.
4. If the query exists and has not exceeded its TTL, then we print the response stored in the cache.
5. Else we use sockets to interact with the DNS server.
6. The query is sent to the DNS server (proxy acting as client)

7. The DNS server code (from exercise 1), is used to retrieve the information from the DNS server(s).
8. The DNS server returns the message back to the proxy
9. The proxy parses the response
10. It updates the cache and prints the results.

NOTE: UDP sockets are used to implement the proxy.