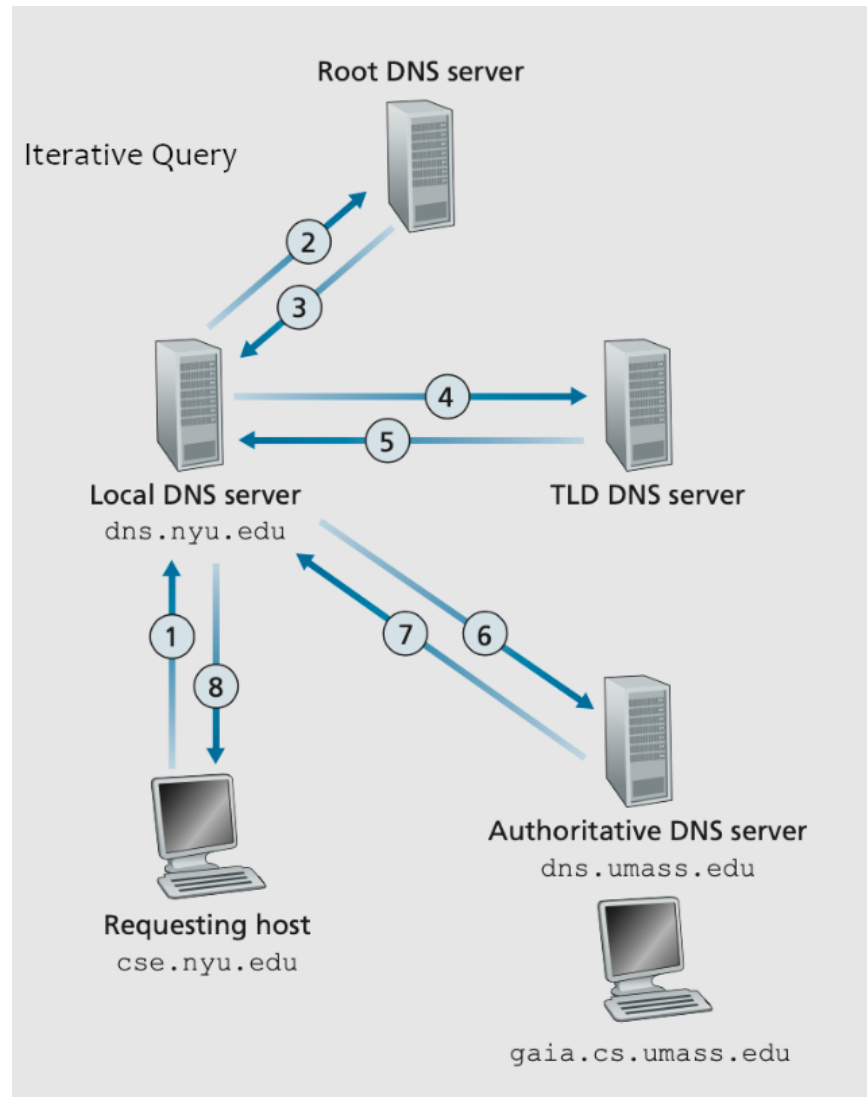


# DNS Instructions

## Iterative DNS

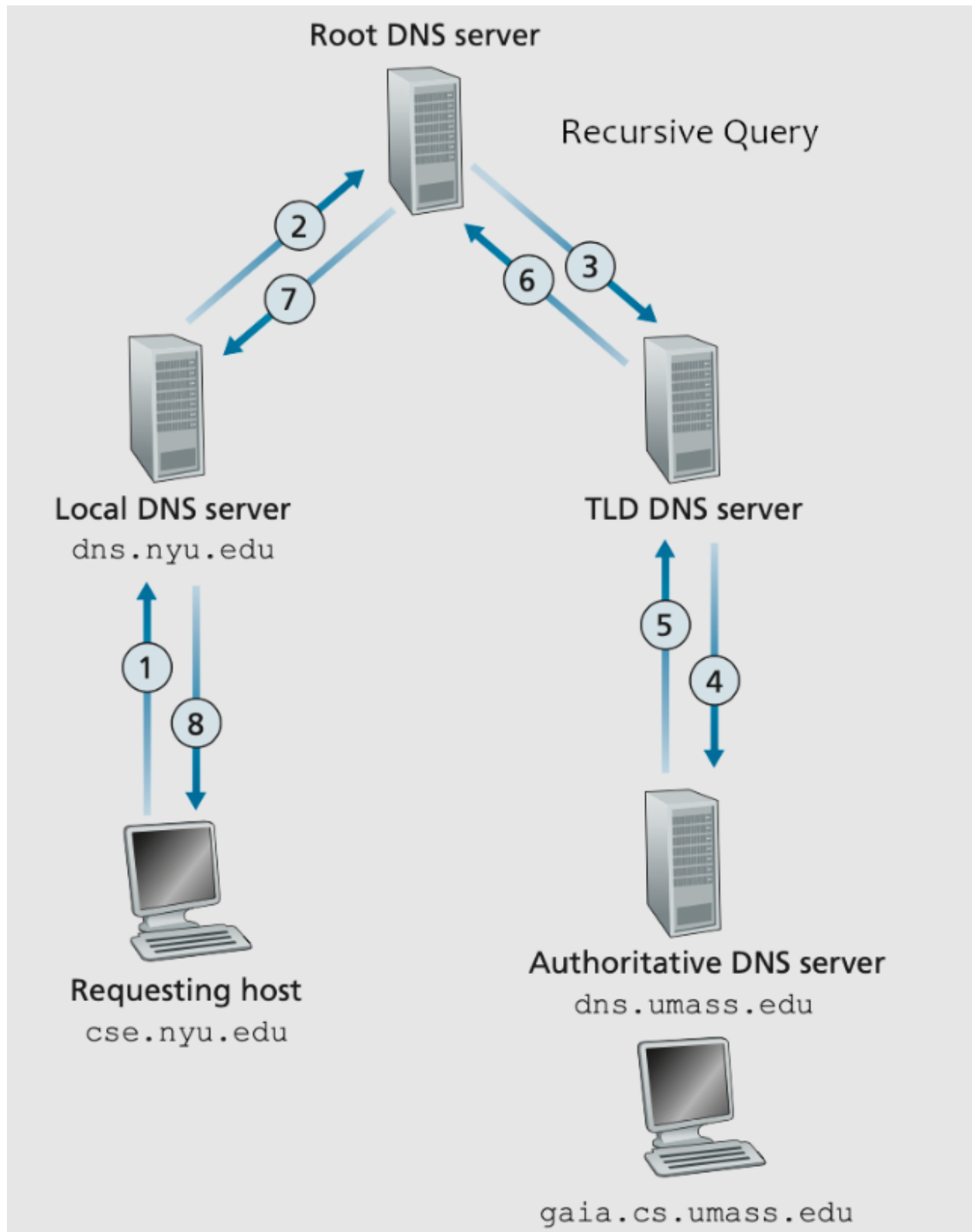


Take "[acoe.annauniv.edu](#)" for example

1. Client request domain name to local DNS server.. if domain present in local DNS cache, directly go to step 8 and resolving finish.. If not present in cache, go to step 2
2. Local DNS server request domain name to root DNS server only to find the top level domain(.com or .org. or .edu etc) [.edu in our example acoe.annauniv.edu]

3. Root DNS server returns the ADDRESS of the corresponding TLD server to the local DNS server [.edu server in our example]
4. Local DNS server sends domain name to the TLD server [.edu server in our example]
5. The TLD server will send the ADDRESS of authoritative server to Local DNS server [address of annauniv.edu server in our example]
6. Local DNS server will send domain name[acoe.annauniv.edu] to authoritative server
7. Authoritative server will give the required IP address to the local DNS server. IP will be SAVED IN LOCAL CACHE.
8. Local DNS server will send the resultant IP address to the client

## **Recursive DNS**



Take "[acoe.annauniv.edu](#)" for example

1. Client request domain name to local DNS server.. if domain present in local DNS cache, directly go to step 8 and resolving finish.. If not present in cache, go to step 2
2. Local DNS server request domain name to root DNS server.
3. Root DNS server forwards the request to corresponding TLD server  
[.edu server in our example]
4. TLD server sends sends the domain to corresponding authoritative server  
[annauniv.edu server in our example]
5. The Authoritative server will send the RESULTANT IP ADDRESS back to TLD server
6. TLD server gives the result to Root DNS server
7. Root DNS server will give result to local DNS server. result stored in local cache
8. Local DNS server will send the resultant IP address to the client

## **IN OUR PROGRAM**

Address of Local DNS server - 127.0.0.1

Address of Root DNS server - 127.0.0.2

Address of .com TLD server - 127.0.0.3

Address of .edu TLD server - 127.0.0.4

Address of annauniv.edu server - 127.0.0.5

Address of google.com server - 127.0.0.6

## **Stored Domains in our program**

annauniv.edu (or) www.annauniv.edu - 14.139.161.7

cs.annauniv.edu - 14.139.161.14

acoe.annauniv.edu - 14.139.161.45

ctdt.annauniv.edu - 14.139.161.73

google.com (or) www.google.com - 142.250.183.238

drive.google.com - 172.217.160.142

mail.google.com - 216.58.196.165

chrome.google.com - 142.250.76.174

support.google.com - 142.250.193.110

## KEY POINT

- In iterative DNS, all requests are made from local DNS server. so heavy load on local DNS server
- In recursive DNS, every server participates equally, so less load on servers.
- IP addresses are stored in form of #define in our program.

```
#define WWW "14.139.161.7"  
#define CS "14.139.161.14"  
#define AC0E "14.139.161.45"  
#define CTDT "14.139.161.73"
```

```
#define WWW "142.250.183.238"  
#define DRIVE "172.217.160.142"  
#define MAIL "216.58.196.165"  
#define CHROME "142.250.76.174"  
#define SUPPORT "142.250.193.110"
```