

On the Effectiveness of DNS-based Server Selection

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Problems Examined

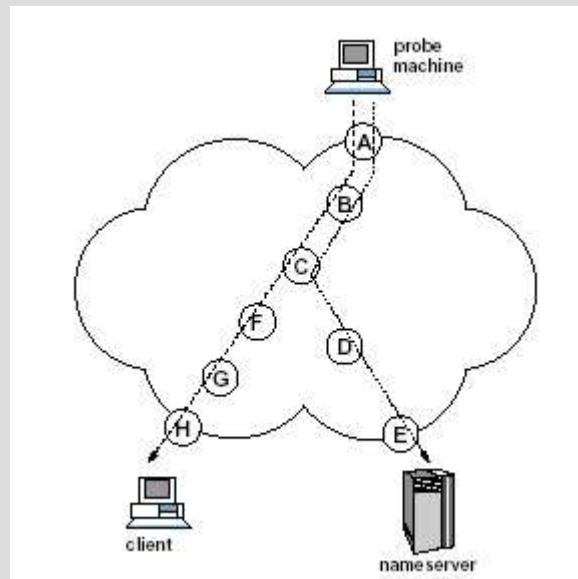
- Zero or small TTLs
 - cause more DNS traffic
 - cause higher latency
- Assume that client is close to resolver
 - IP is not that of the client
 - client and resolver need not be close
 - may choose wrong server

Small TTLs

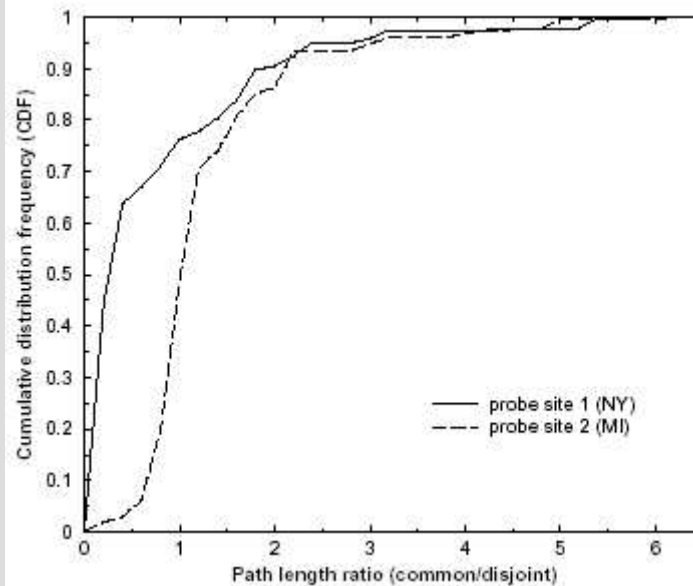
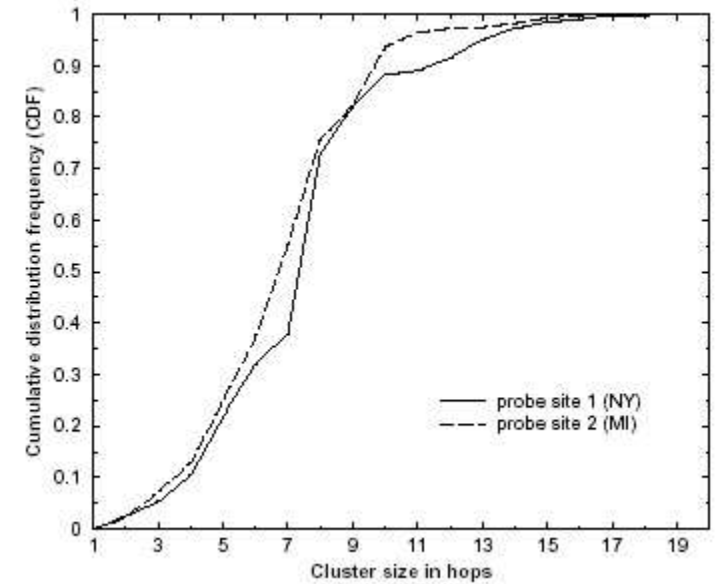
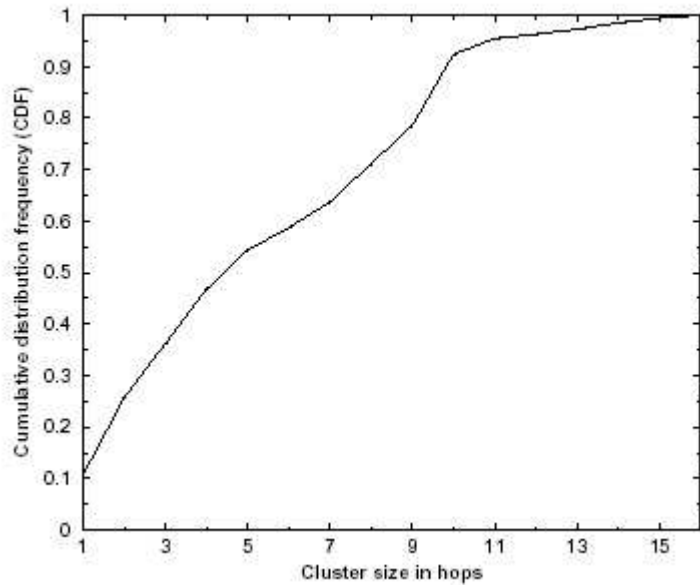
- Caching decreases response time
 - fully cached: 2.3ms
 - nameserver cached: 60ms
 - nothing cached: 200ms

Client-Nameserver Proximity

- DNS server only knows the IP of the host contacting it
 - this host is not necessarily the client



Proximity Results



Conclusion

- DNS-based server selection is not without its problems
- Possibly add to DNS protocol so that server can always know IP of client, not just requester