Lightweight Service Simplification via DNS
draft-cao-lwig-dns-serv-simp-00

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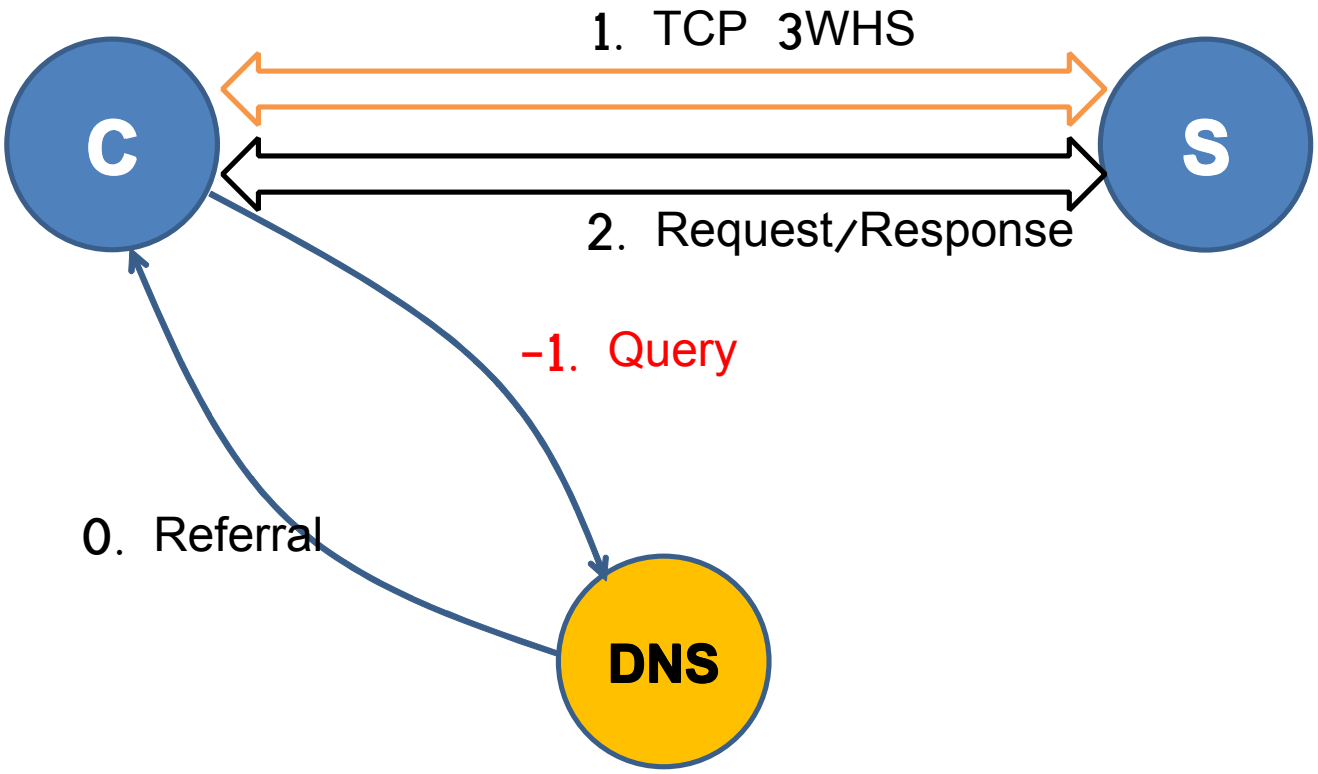
The State-of-the-art



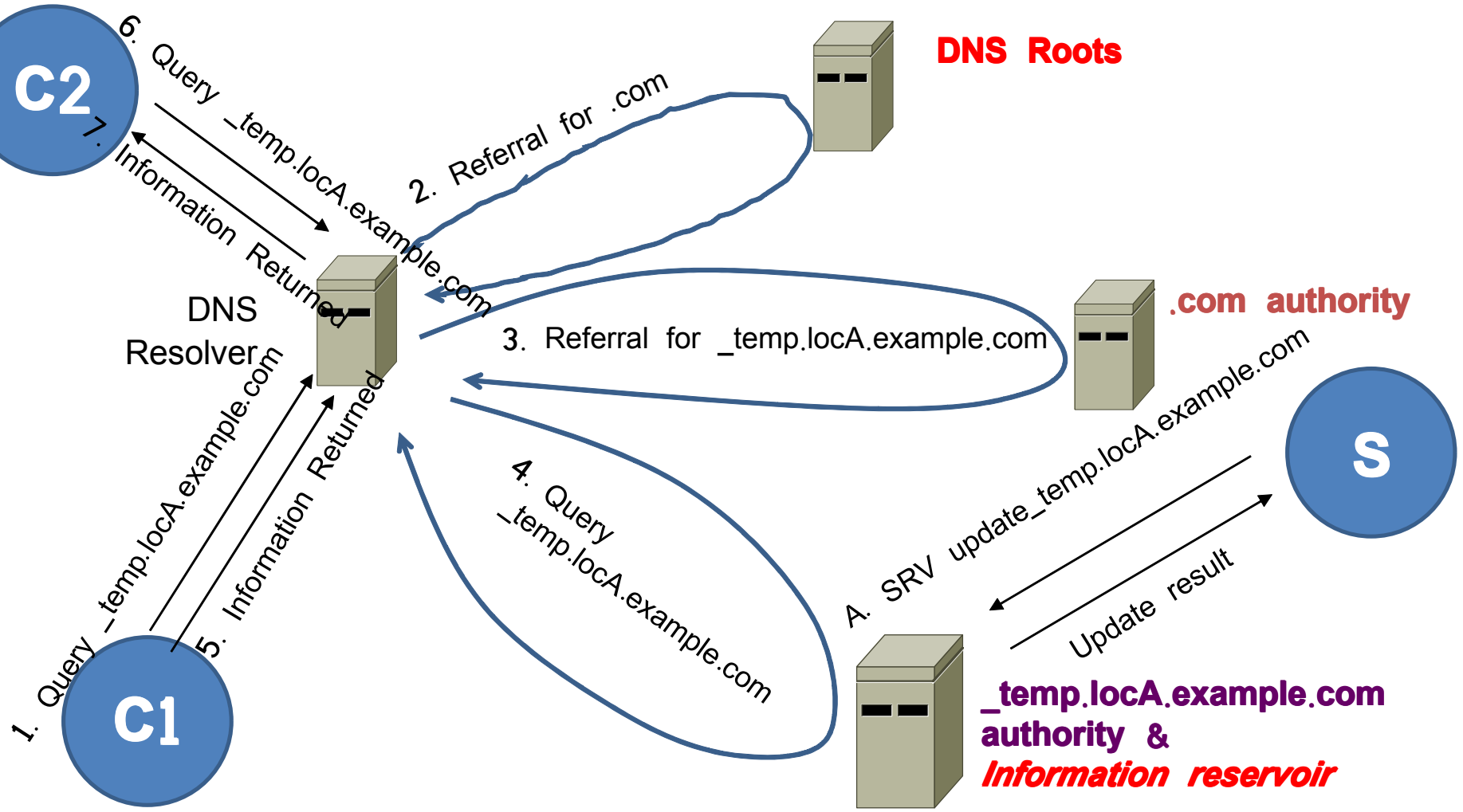
The Problems / space of optimization

- Transmission is much more expensive than computing, especially for wireless link. A lot of evidence, refer to Jari's slides at technique plenary at IETF82
- Considerable overhead for lightweight services
  - After seveval hundreds bytes transmitted over multiple(>3) transactions, you get "Temp=26.3C"
- DNS query is mandatory, no one can remember the IP address, especially for IPv6…
- Design spaces
  - I. Optimize the application problem, e.g. using CoAP proxy
  - II. Optimize within the DNS round trip, this draft

Ways around

- Information expression
  - How to organize the name space?
- Information storage
  - How to store the information on the DNS server?
- Information query, response and update
  - Using DNS, not to design new protocols

The Solution via an Example



Benefits

- Building on existing blocks, no new protocols.
- Fast response with near client cache.
- Suitable for information retrieval.
- Verified scalability with DNS architecture.
- Security issues addressed by DNSSEC.

Further Considerations

- The TTL of DNS resource records
- The placement of the authority DNS server.

Q & A