Complimentary Multiple Answer Solutions

draft-wkumari-dnsop-multiple-responses
draft-bellis-dnsext-multi-qtypes

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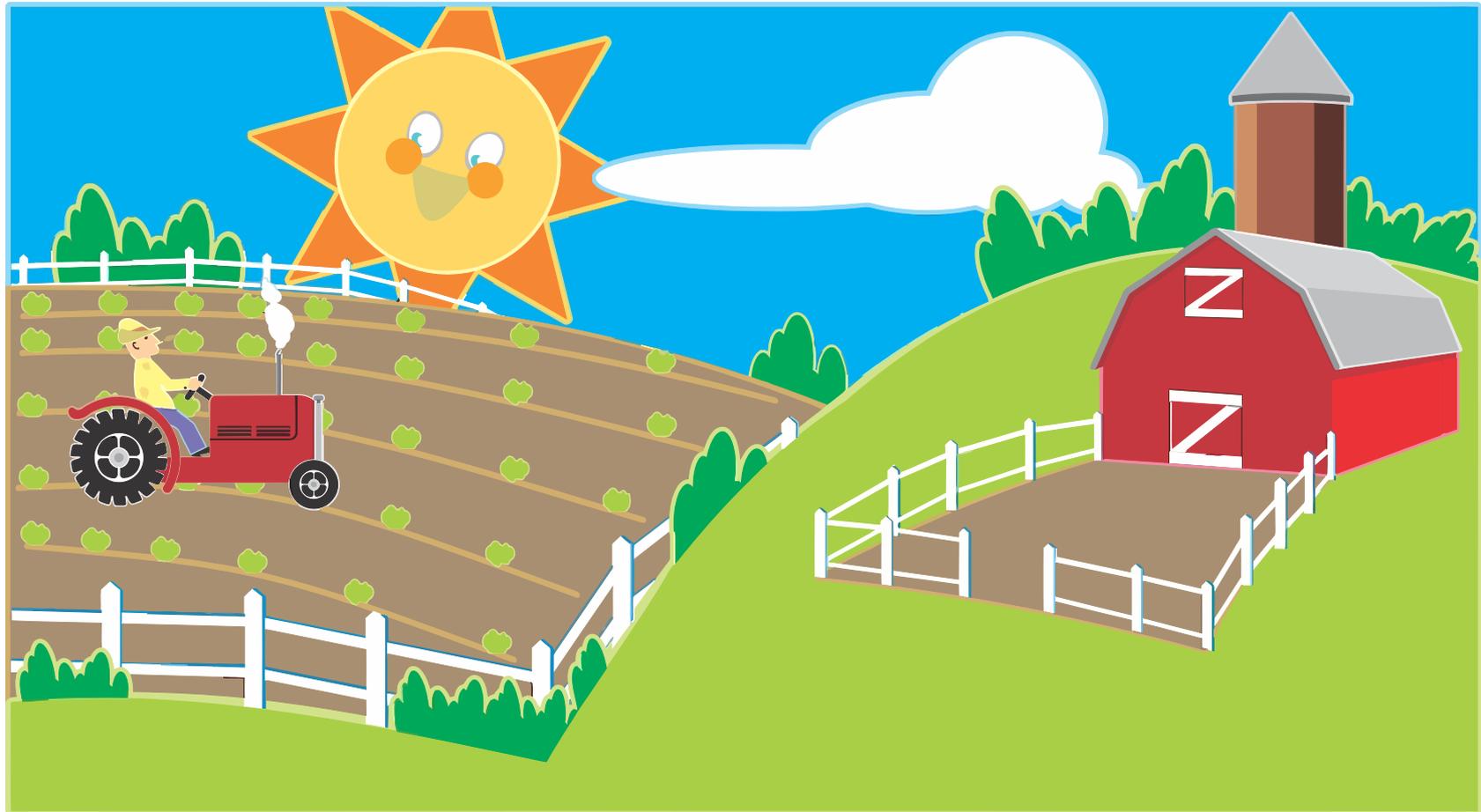Warren Kumari <warren@kumari.net>
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In the Bright Good 'Ol Days

- Clients would use anything ADDITIONAL

In the Dark and Dreary Middle Ages

- Cache poisoning plagued the land
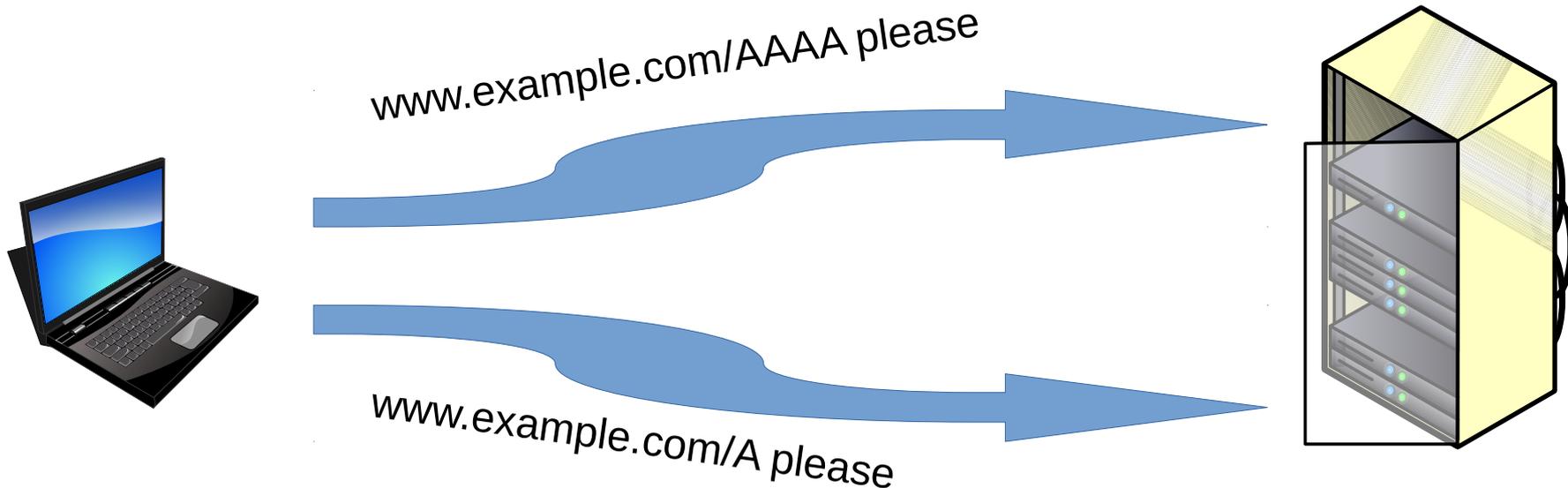 - The ADDITIONAL section was ignored

DNSSEC: A new era

- The sun has risen again
    - DNSSEC provides a safe ADDITIONAL section
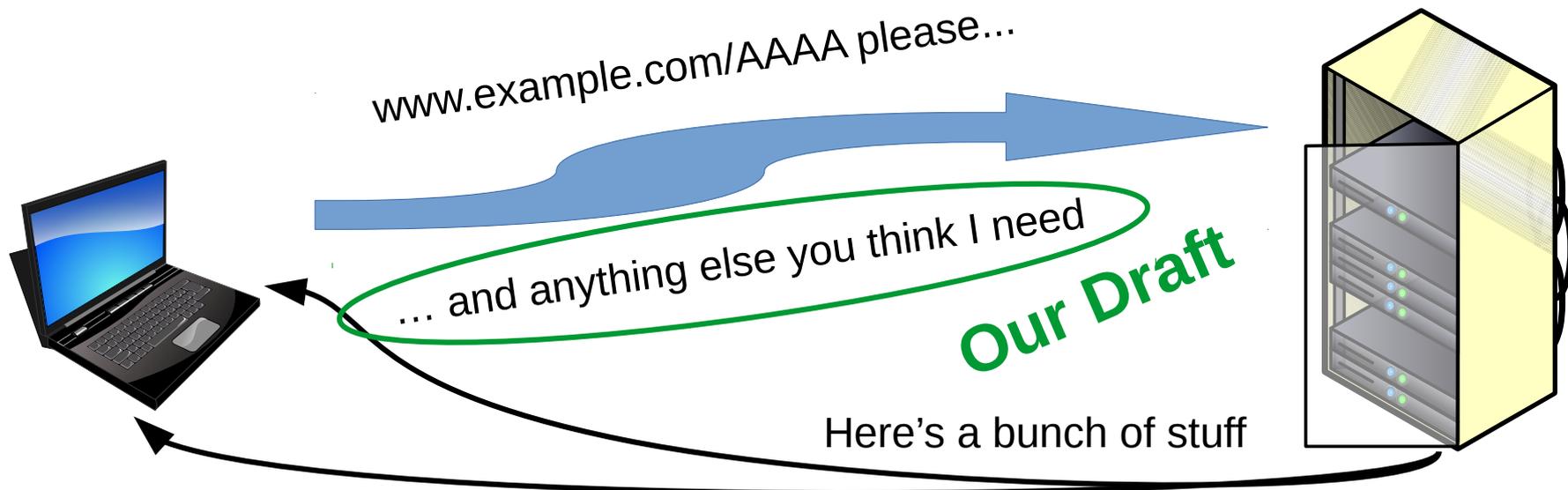
Background: Smart Clients

- Sometimes….
  - The client knows they have other questions
    - A + AAAA
    - NS + MX
    - Multiple QTypes

QTypes Document

www.example.com/AAAA please

www.example.com/A please

Background: Smart Servers

- Sometimes....
  - You don't know what questions to ask
  - But, the server has a better idea of what you need
    - www.example.com → img.example.com
    - example.com/MX → _25._tcp.mail.example.com/TLSA

www.example.com/AAAA please...

… and anything else you think I need

Our Draft

Here's a bunch of stuff

QTypes and Multiple-Responses Differences

Feature	Multiple-Responses	QTypes
Client Indicates Desire	✓	✓
Client Requests Specifics	✗	✓
Server Selects Specifics	✓	✗
Supports Multiple QTypes	✓	✓
Supports Multiple Names	✓	✗
Uses EDNS0	✓	✓

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Happy	👁	👁

Next Steps

- Working Group Adoptions:

  - draft-wkumari-dnsop-multiple-responses

  - draft-bellis-dnsext-multi-qtypes