

The DNS flag day: future-proofing the DNS

Peter van Dijk
Senior Engineer



Client requests

Client

Client requests

Client

Resolver

Client requests



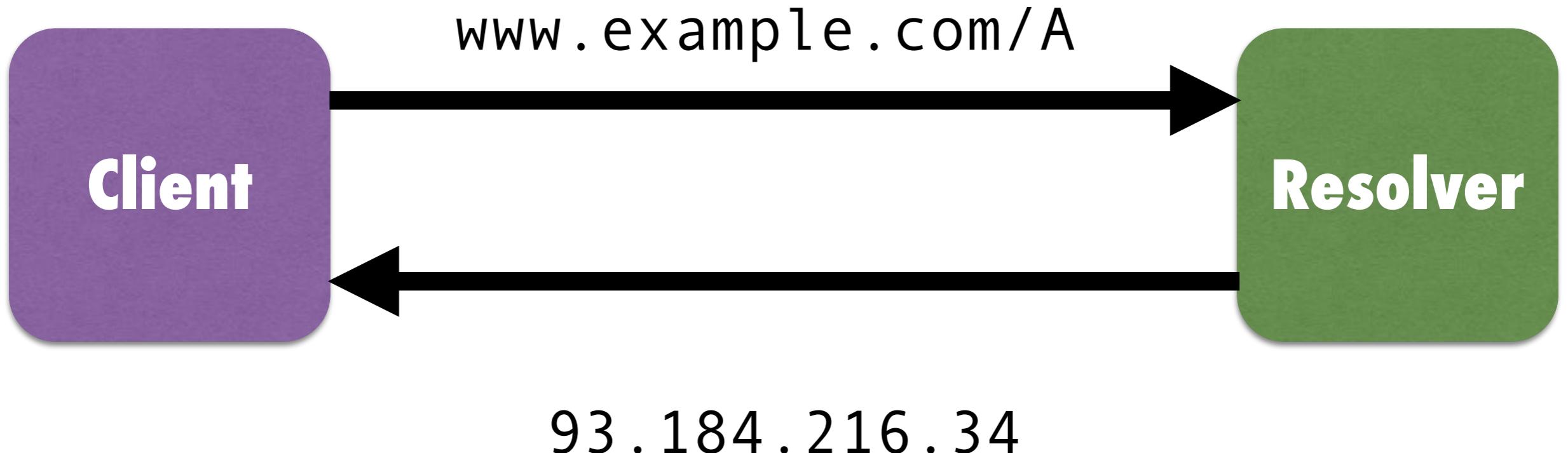
Client requests



Client requests



Client requests



Recursion

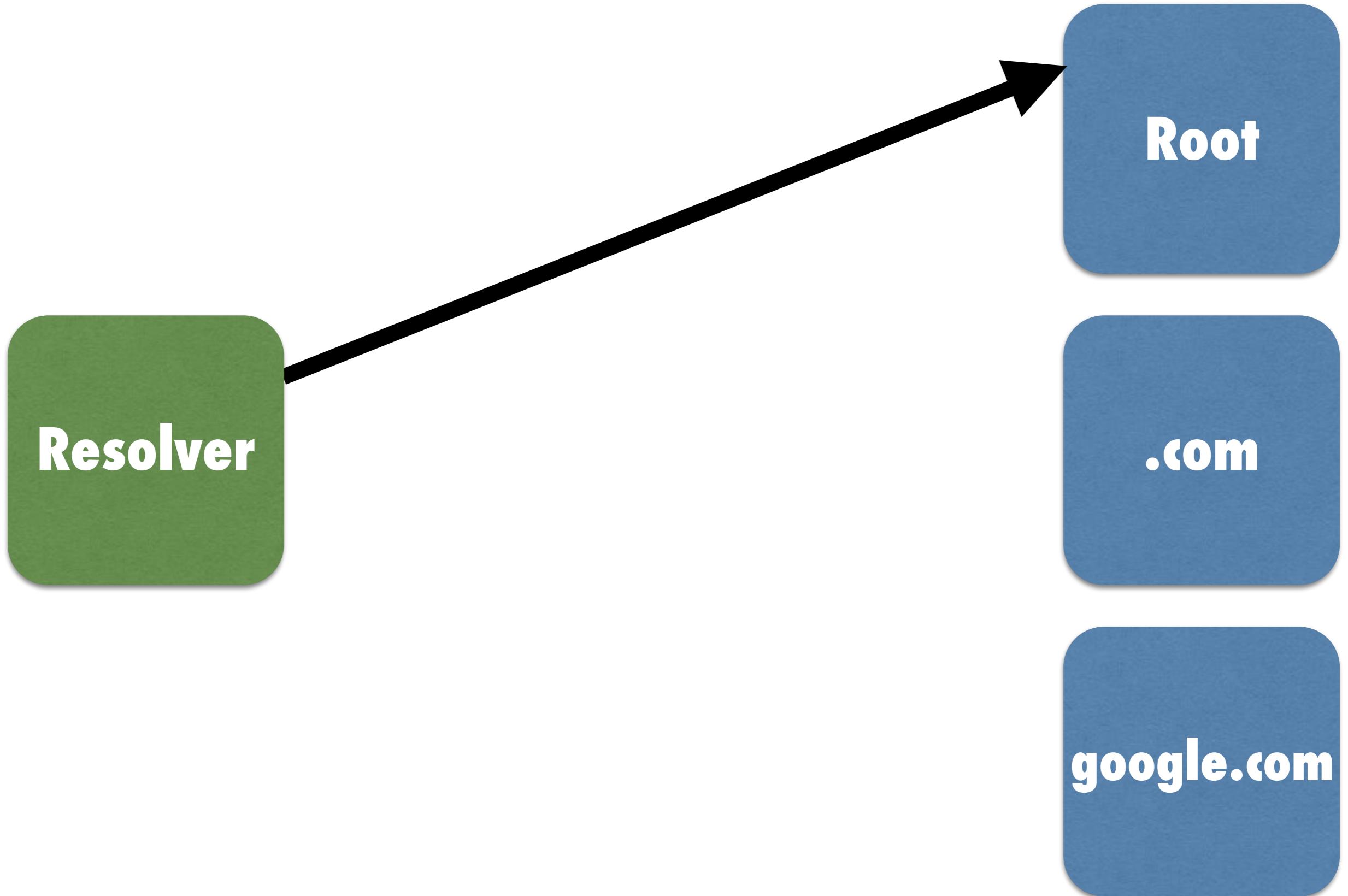
Resolver

Root

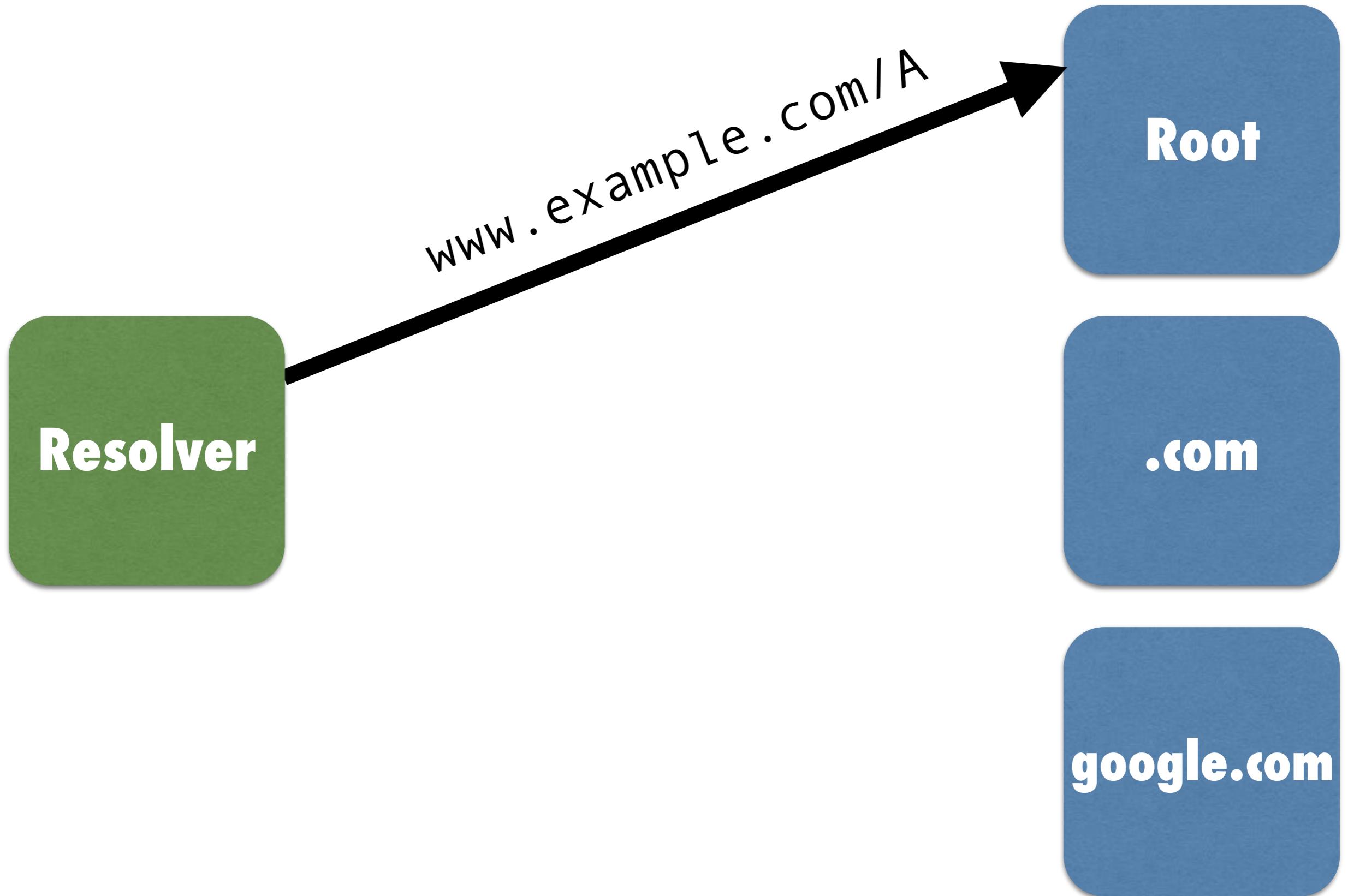
.com

google.com

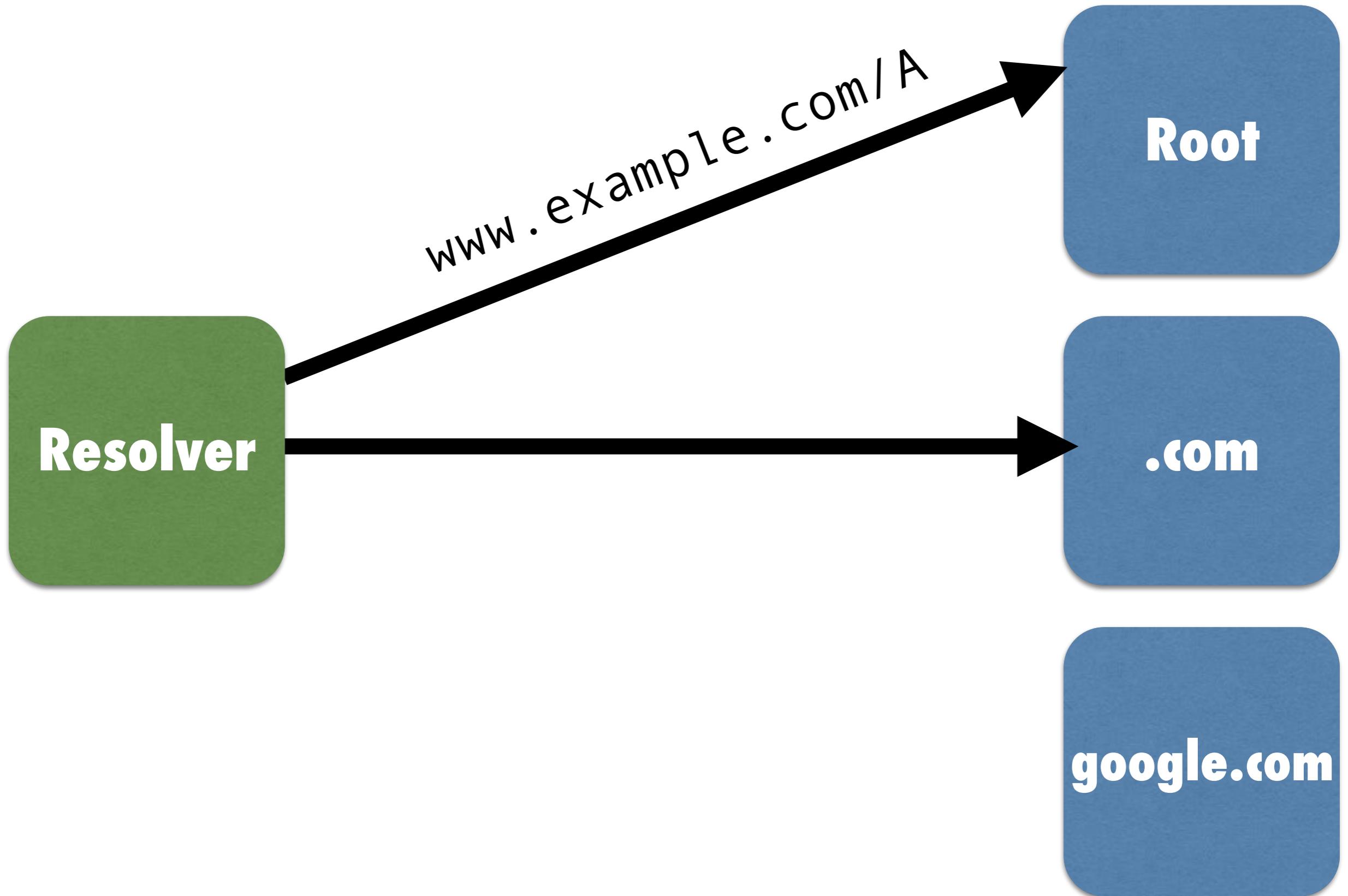
Recursion



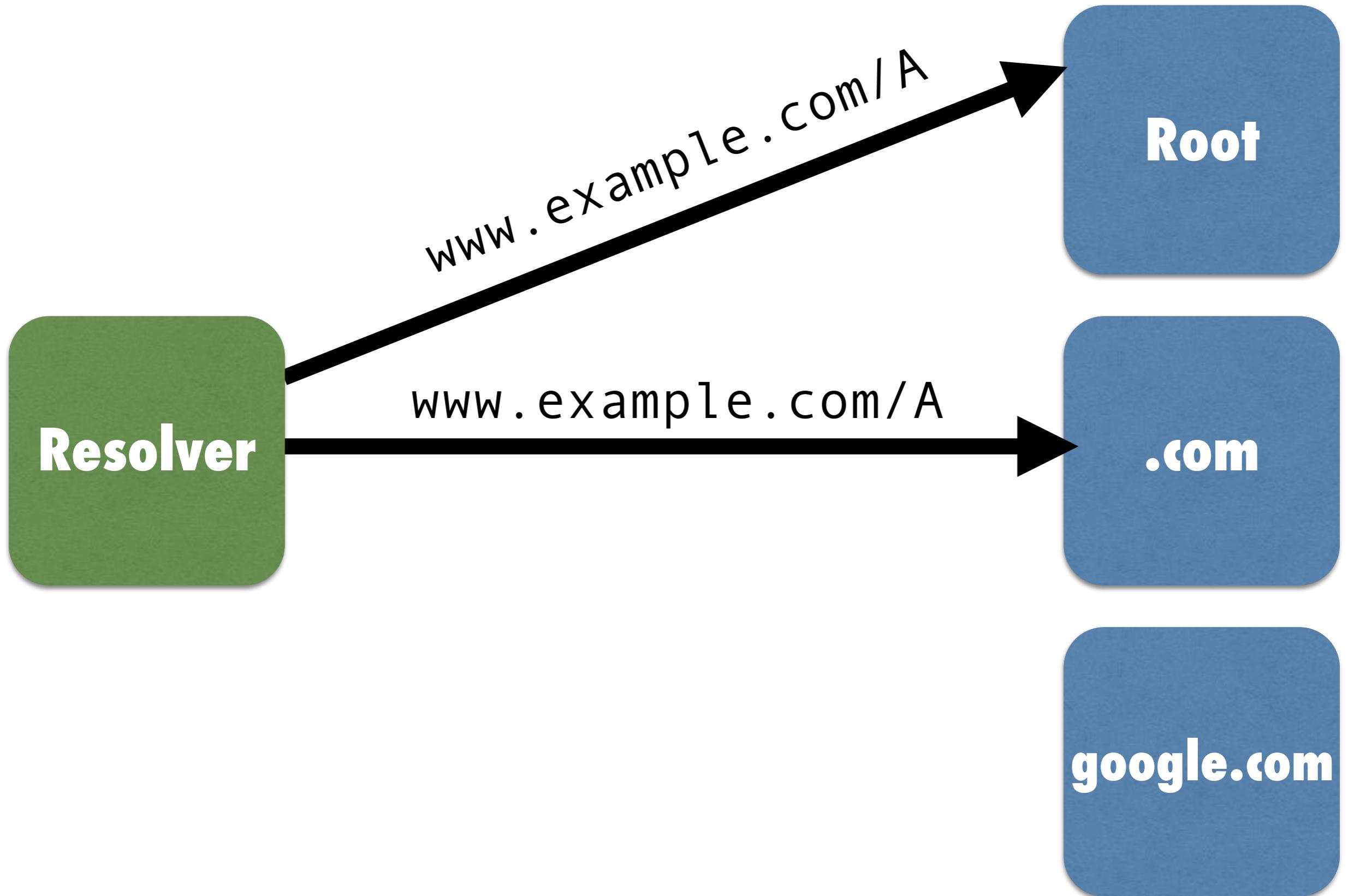
Recursion



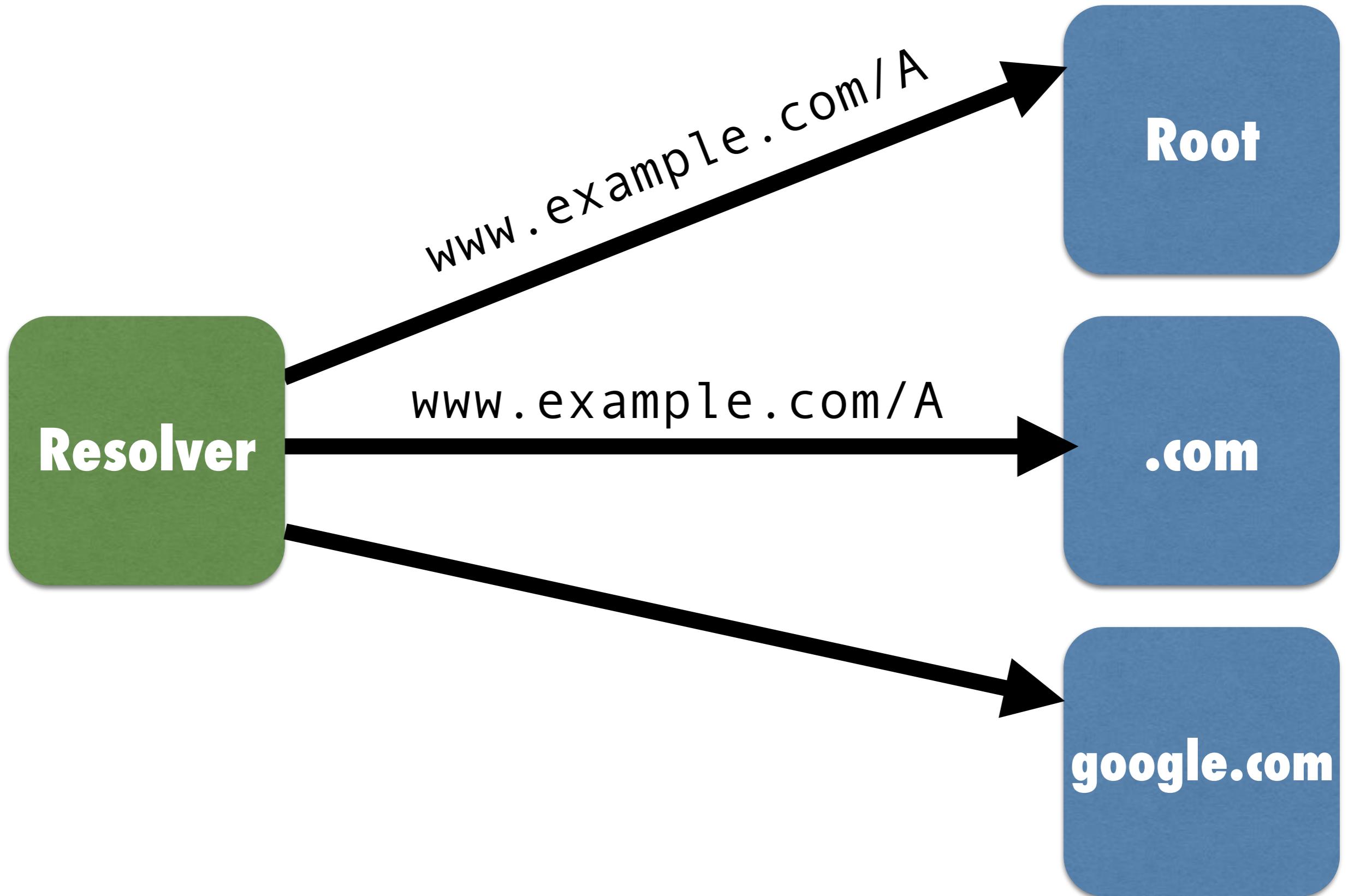
Recursion



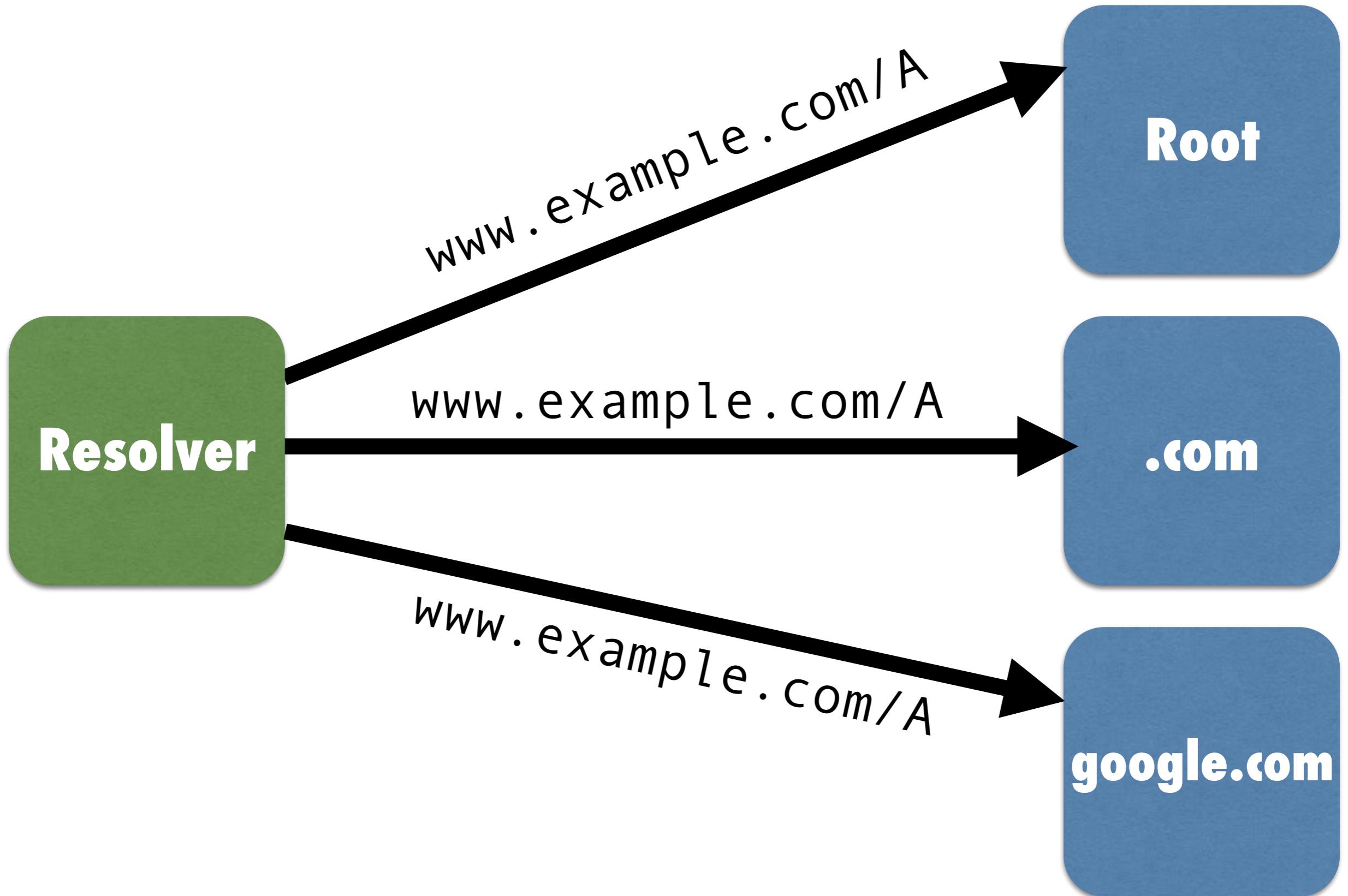
Recursion



Recursion



Recursion



Recursion with EDNS

Resolver

Auth

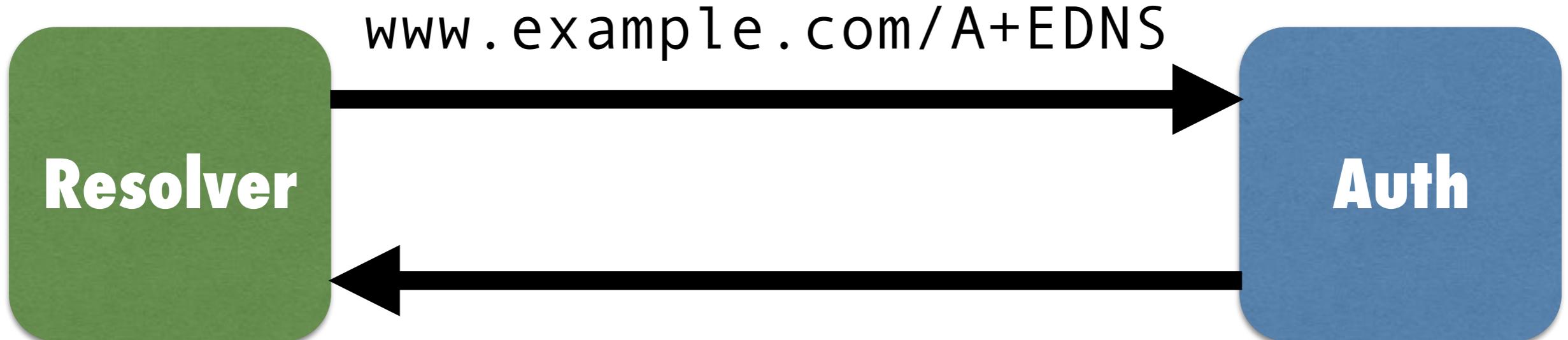
Recursion with EDNS



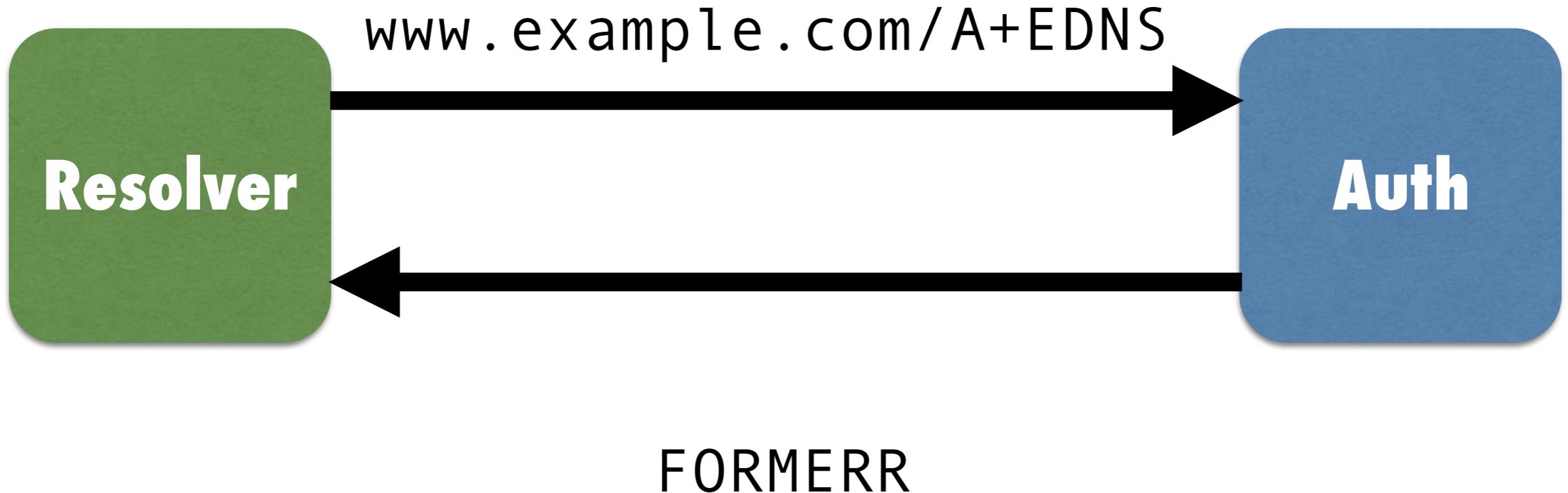
Recursion with EDNS



Recursion with EDNS



Recursion with EDNS



Recursion with EDNS



FORMERR

SERVFAIL

Recursion with EDNS

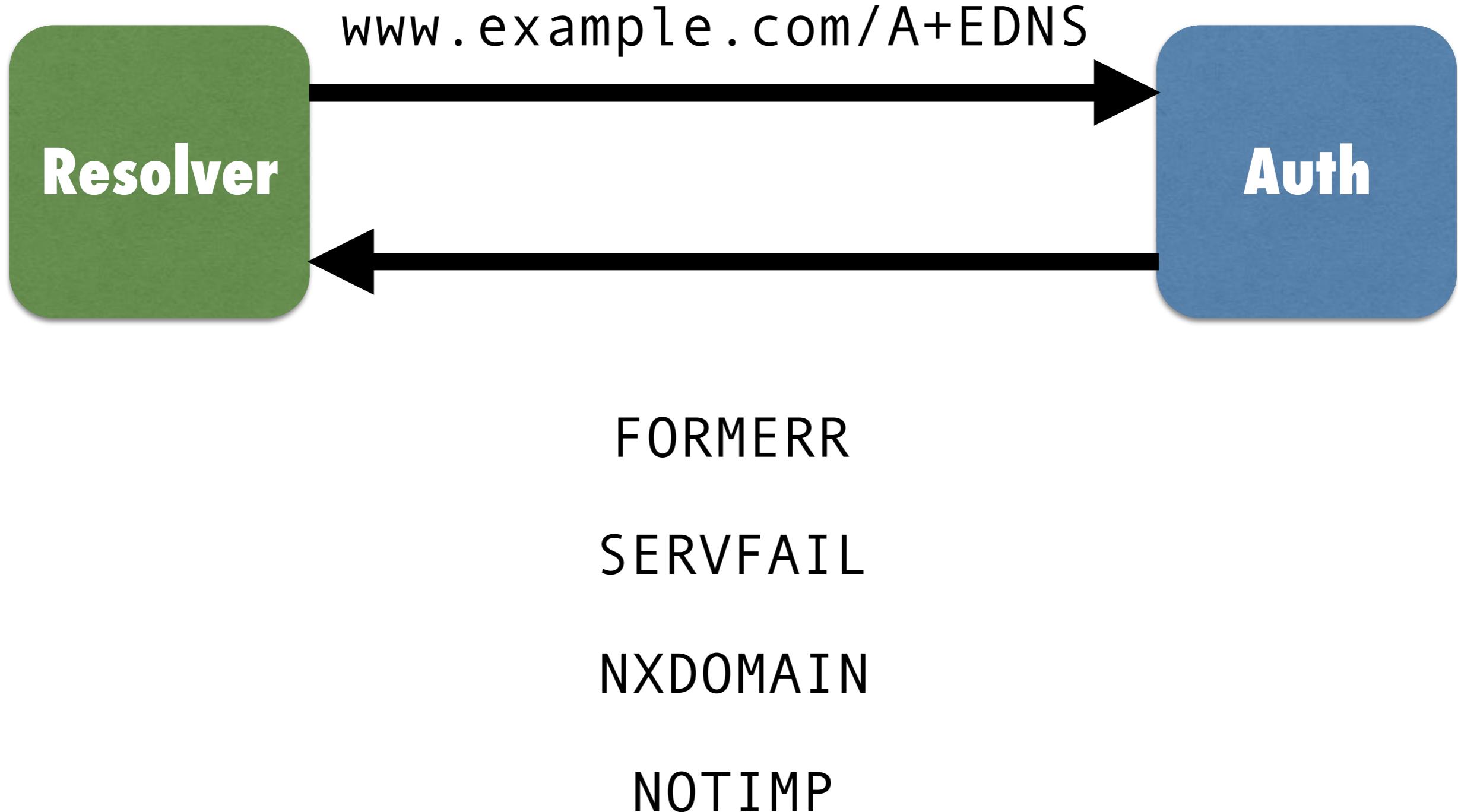


FORMERR

SERVFAIL

NXDOMAIN

Recursion with EDNS



Recursion with EDNS



FORMERR

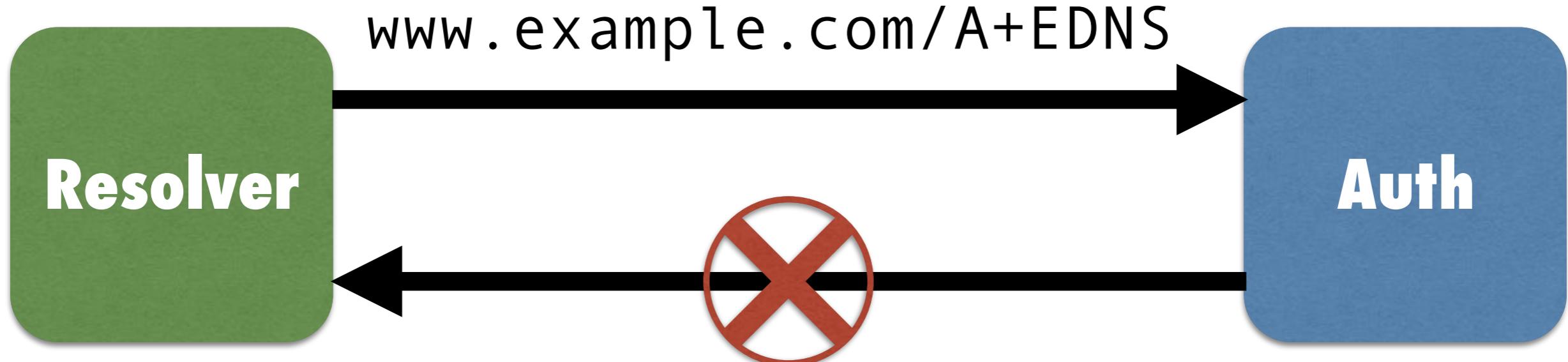
SERVFAIL

NXDOMAIN

NOTIMP

empty answer

Recursion with EDNS



FORMERR

SERVFAIL

NXDOMAIN

NOTIMP

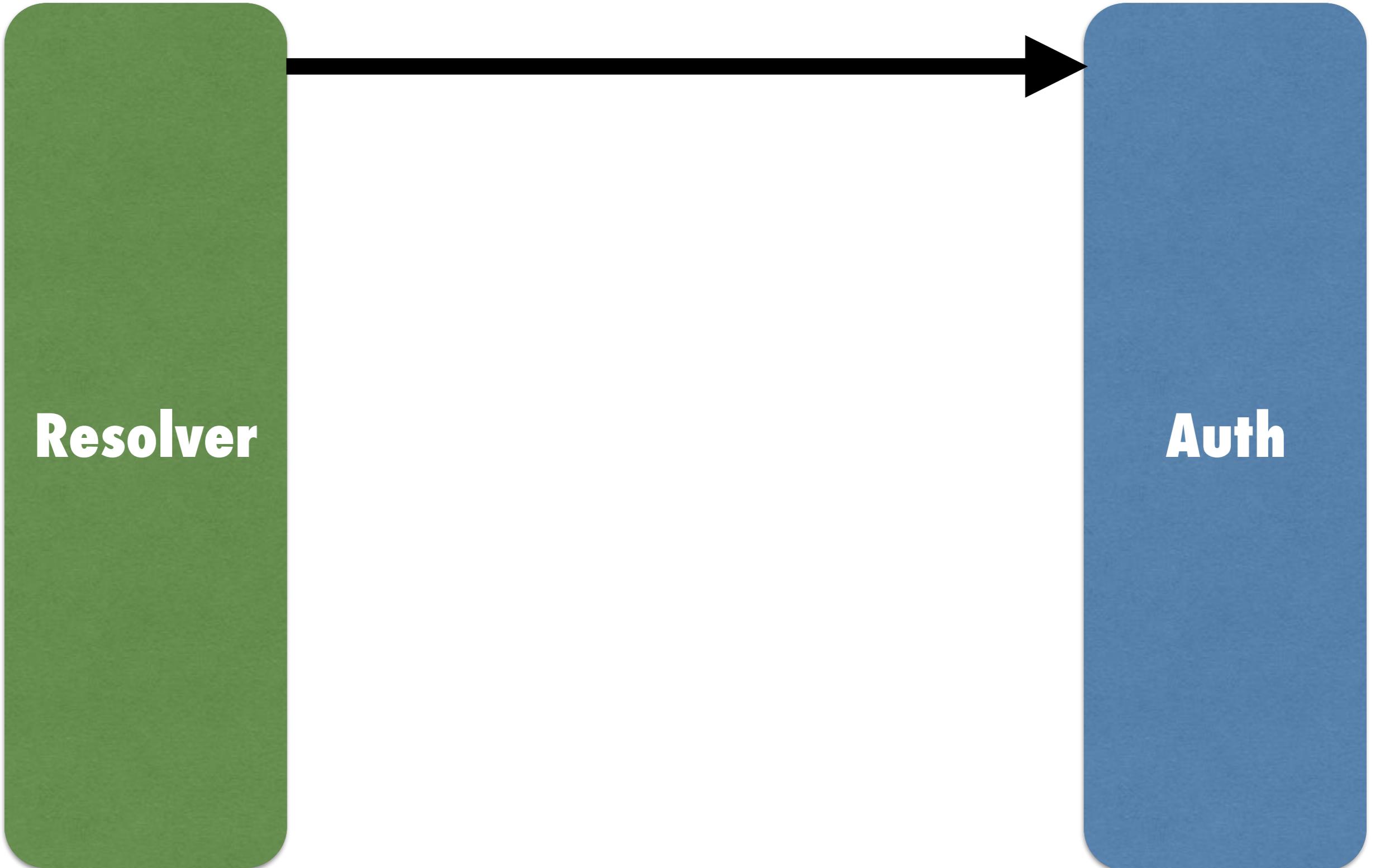
empty answer

EDNS fallback, today

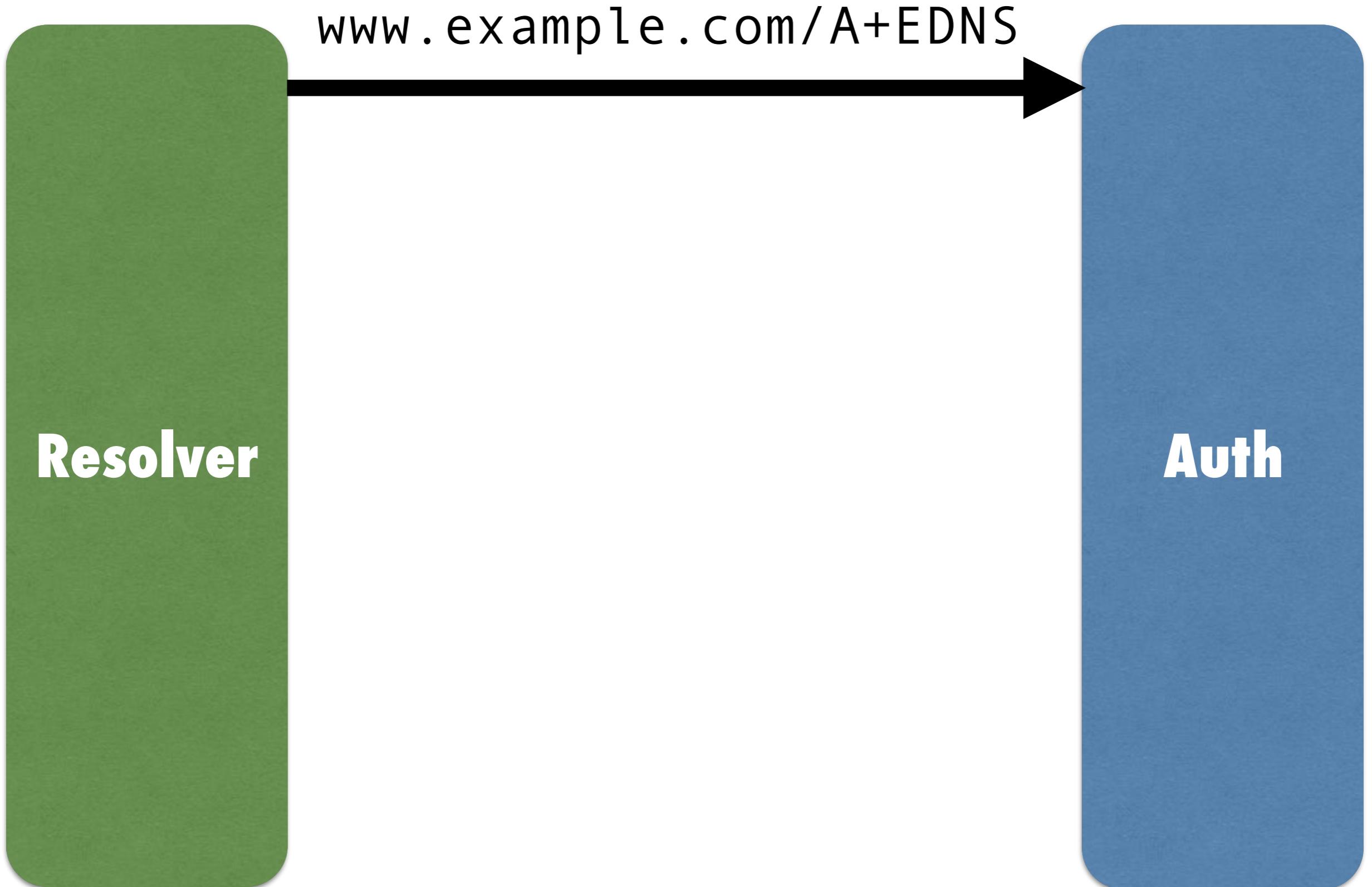
Resolver

Auth

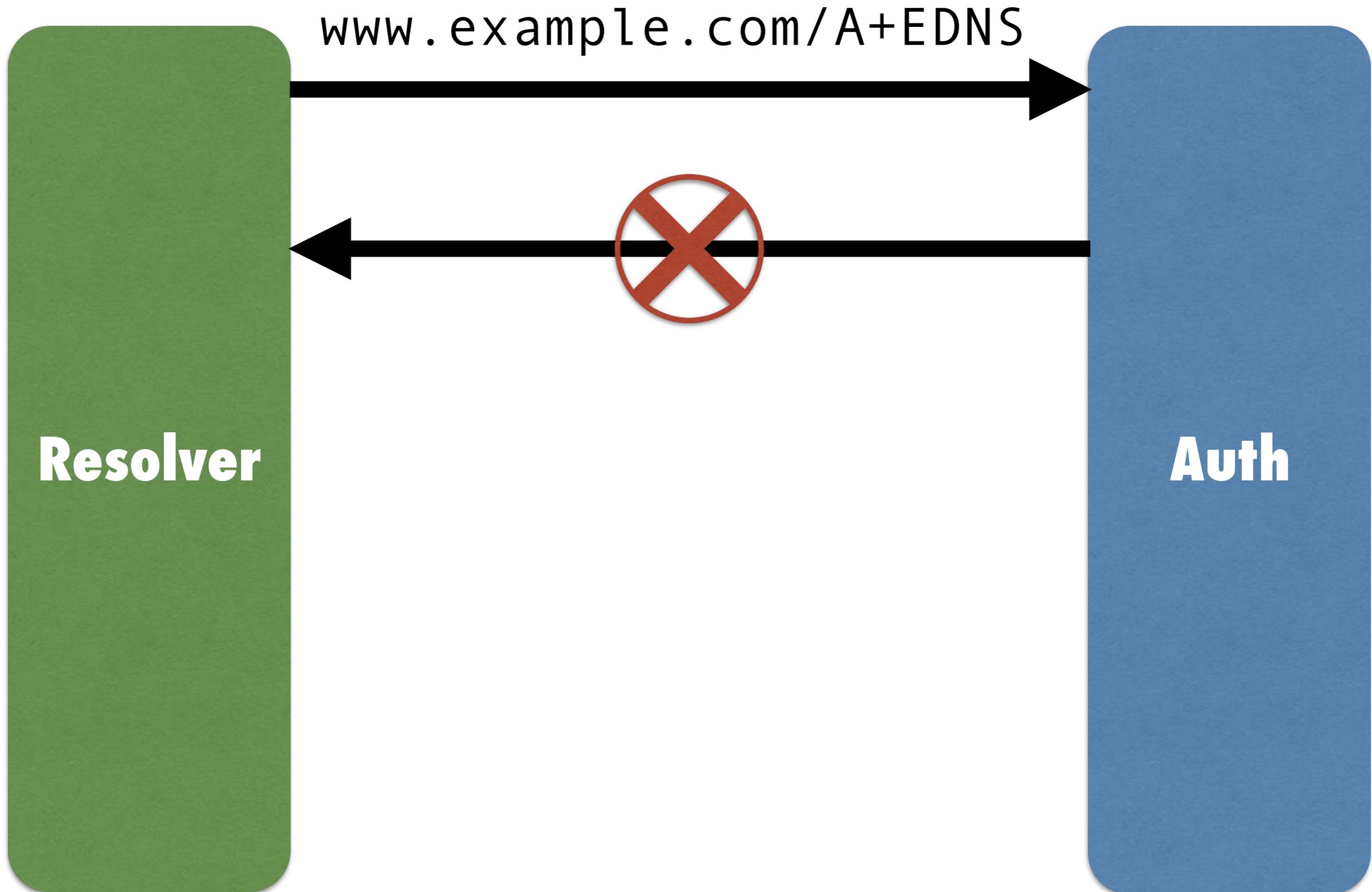
EDNS fallback, today



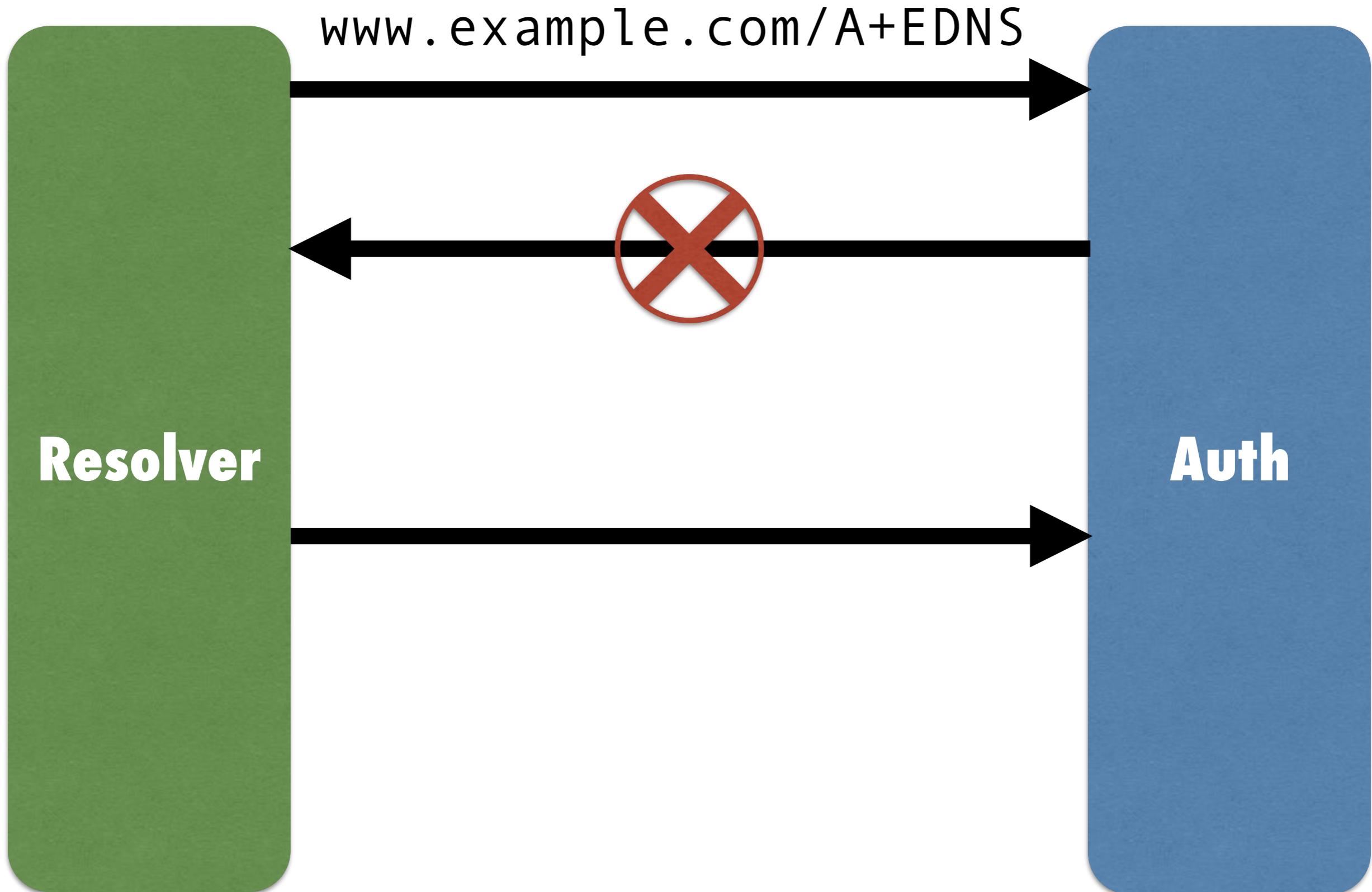
EDNS fallback, today



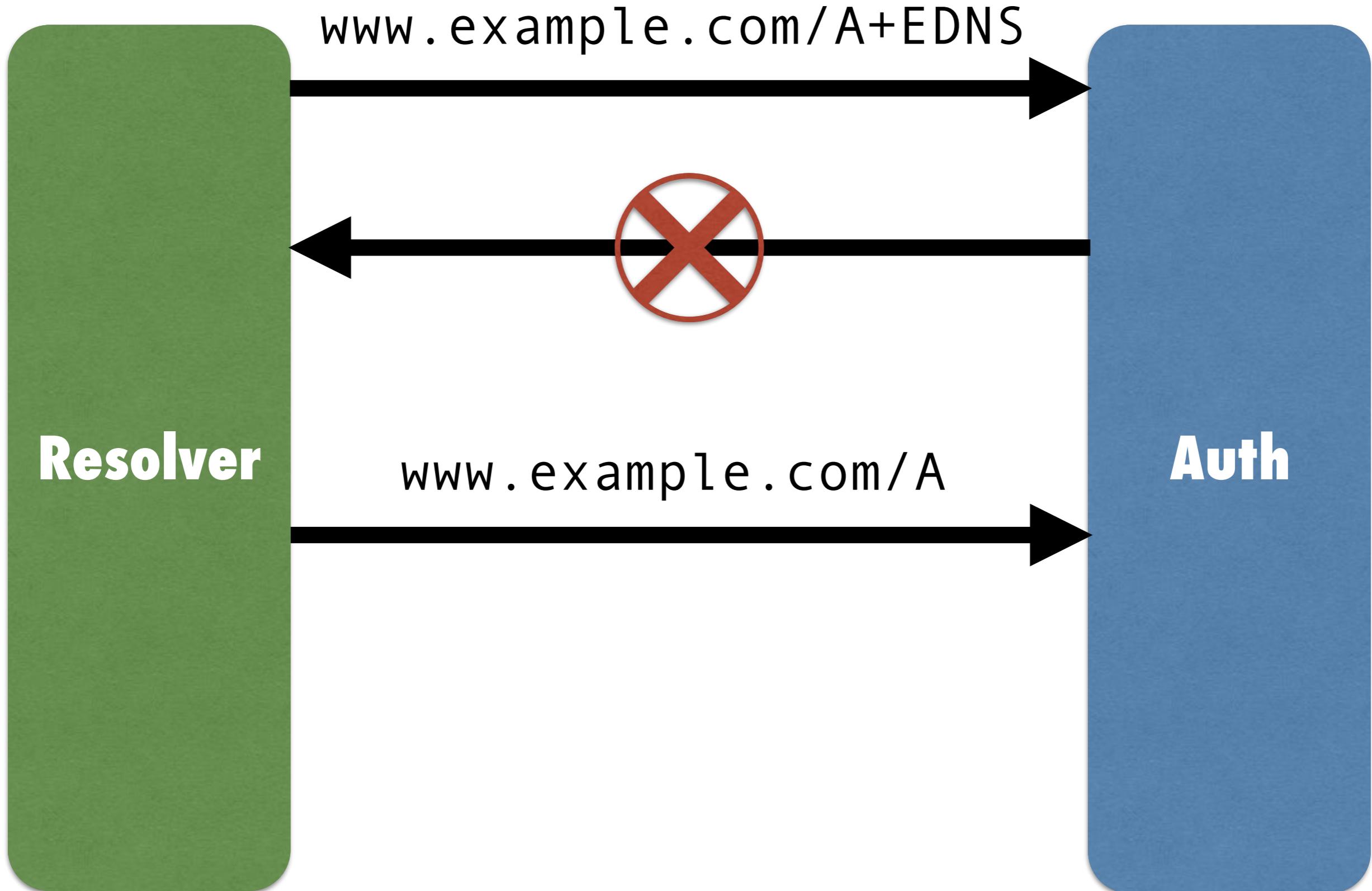
EDNS fallback, today



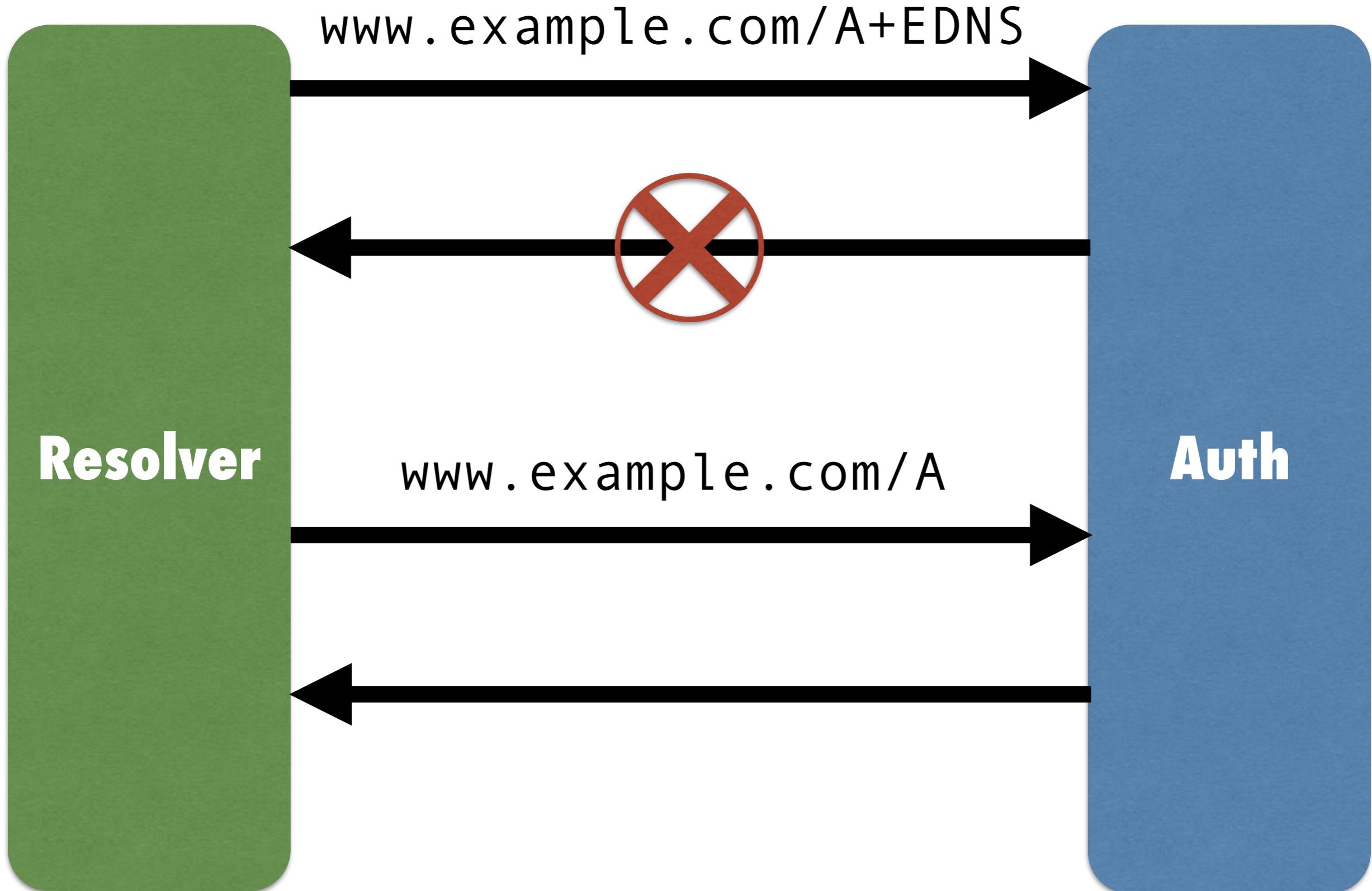
EDNS fallback, today



EDNS fallback, today



EDNS fallback, today



A change is coming



Internet Systems
Consortium



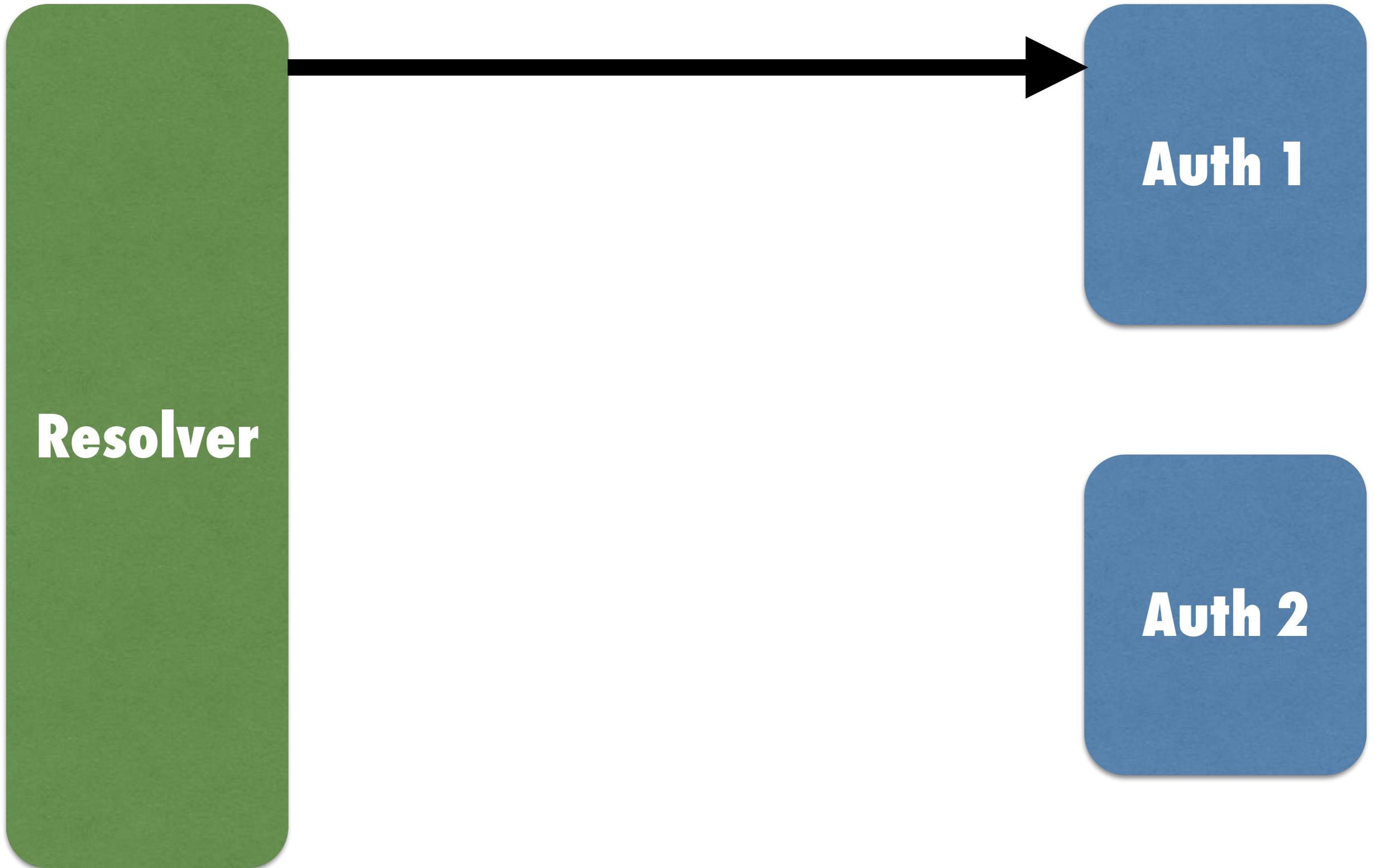
After Feb 1st, 2019

Resolver

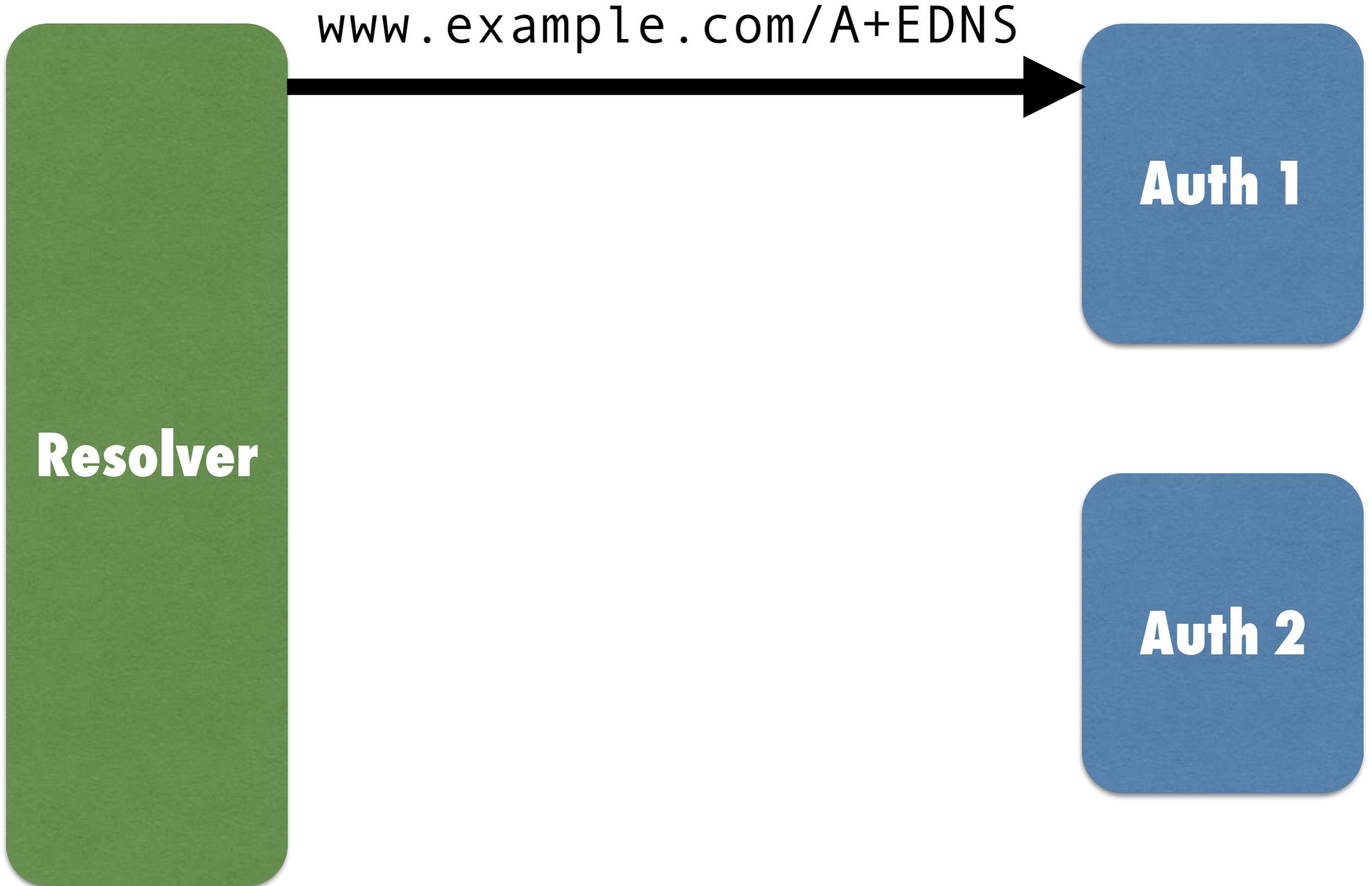
Auth 1

Auth 2

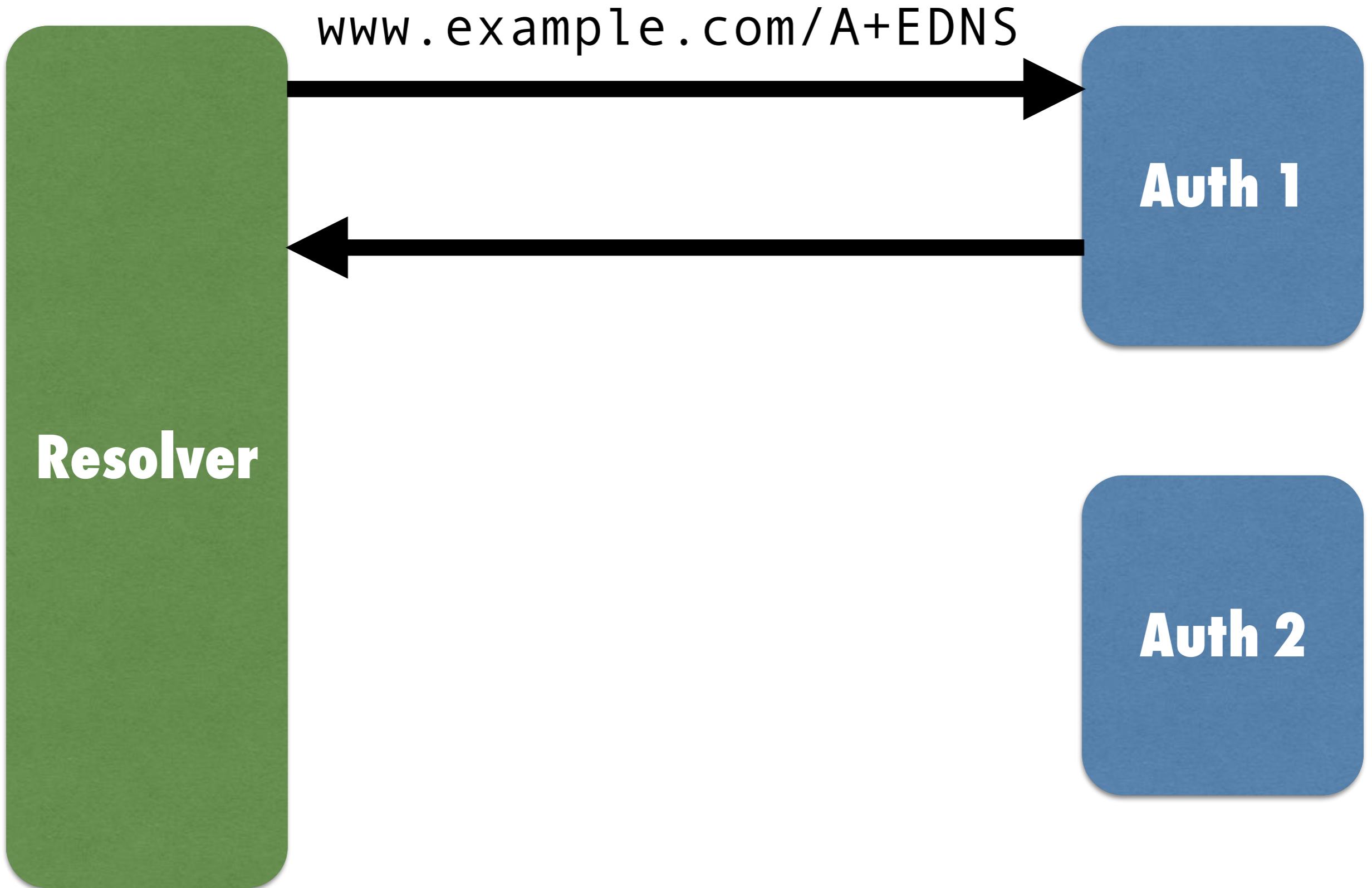
After Feb 1st, 2019



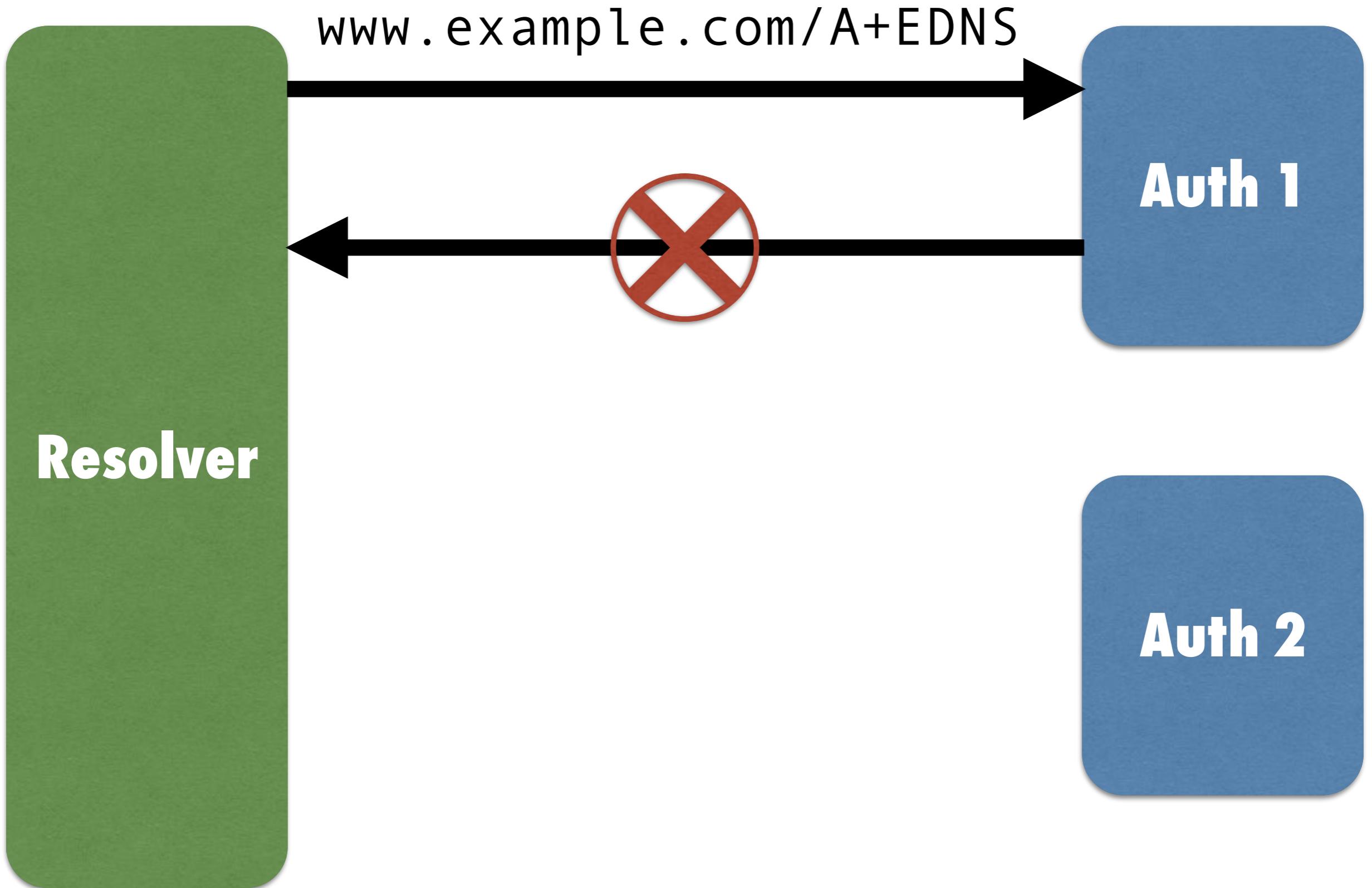
After Feb 1st, 2019



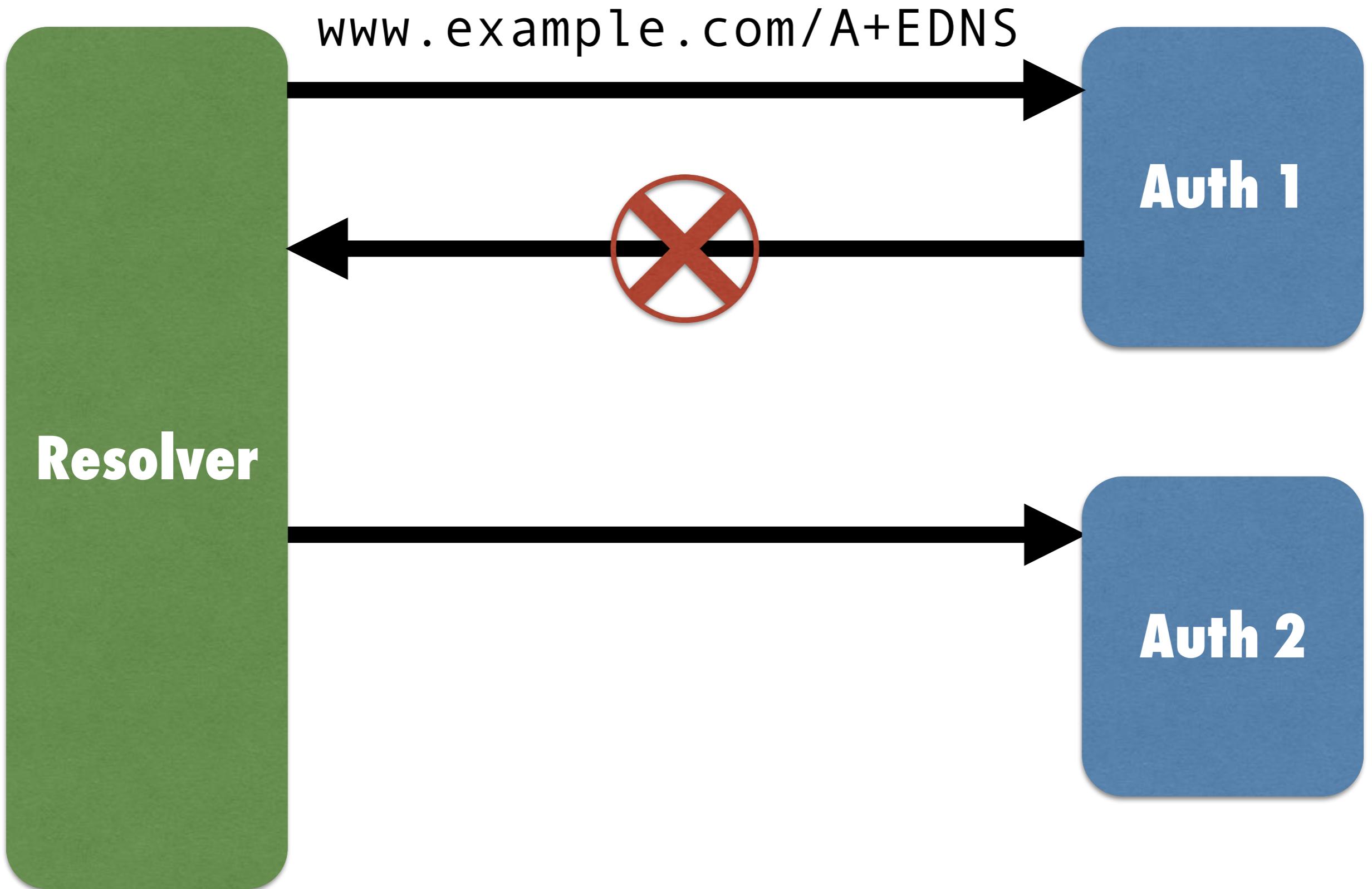
After Feb 1st, 2019



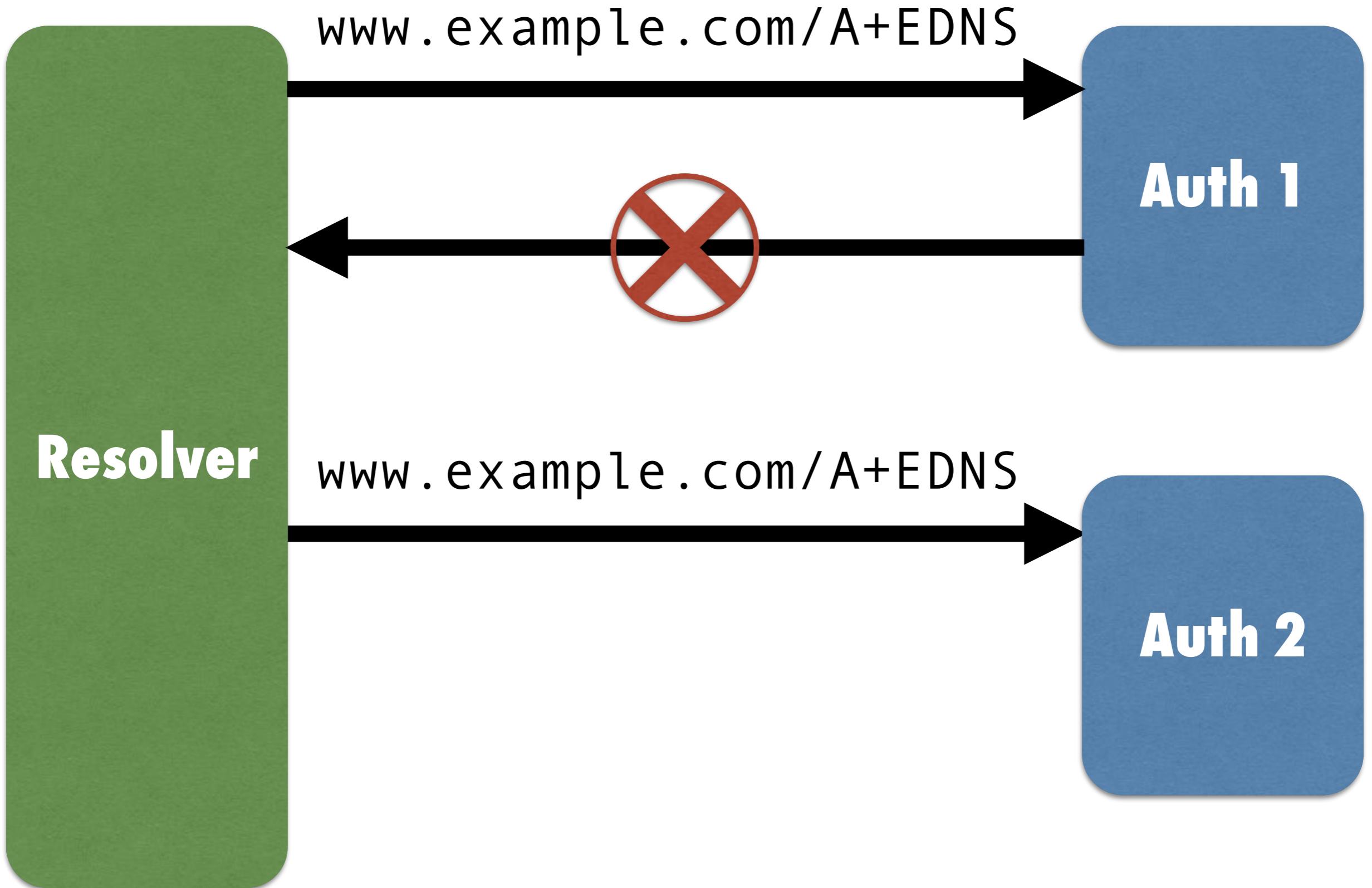
After Feb 1st, 2019



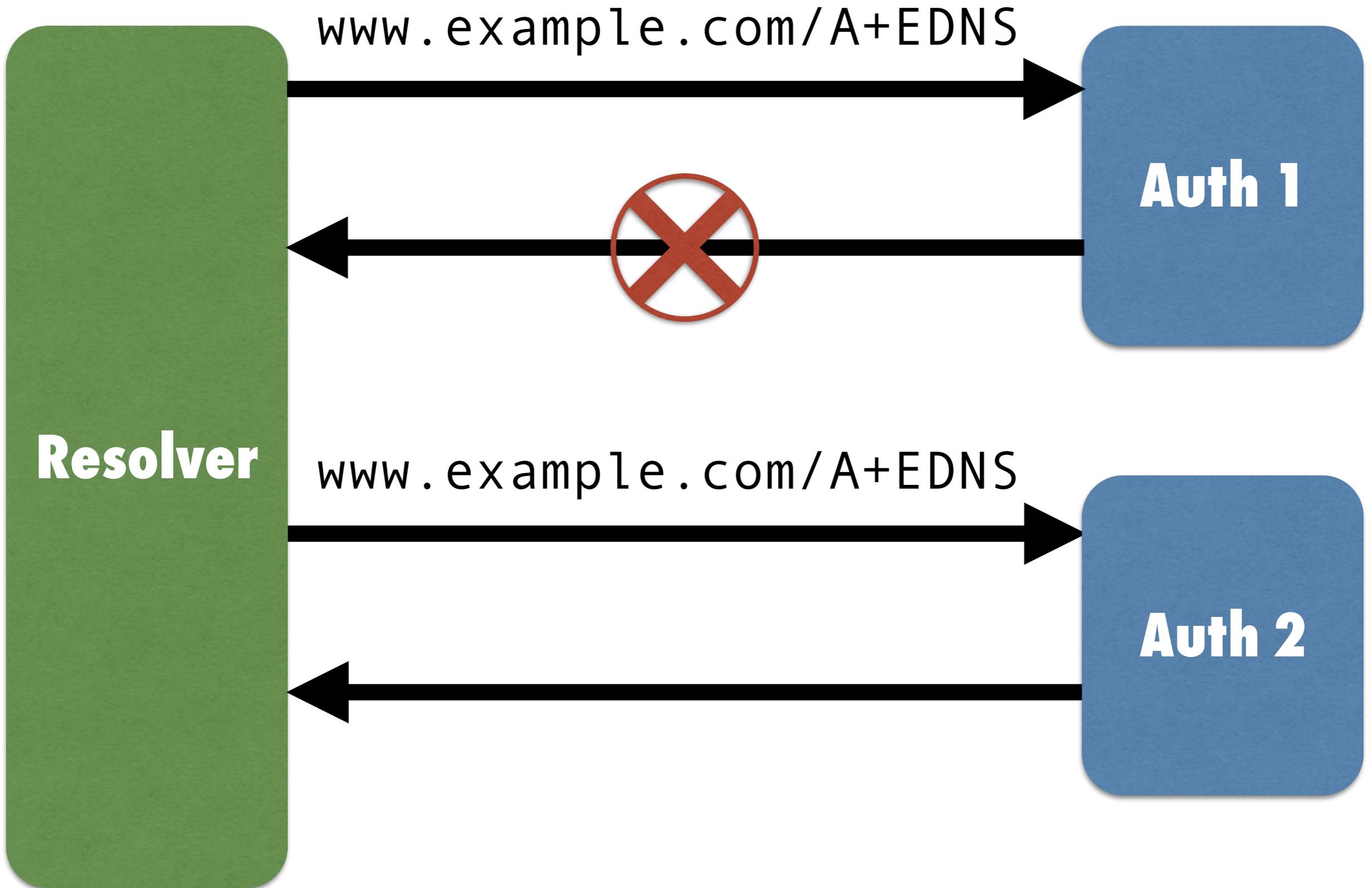
After Feb 1st, 2019



After Feb 1st, 2019



After Feb 1st, 2019



Are you ready?

<https://dnsflagday.net/>

Domain owners

Please check if your domain is affected:

Test your domain

Domain name (without www):

[Test!](#)

Testing completed:

nlnog.net: All Ok!



This domain is perfectly ready, congratulations!

Are you ready?

<https://ednscomp.isc.org/>

EDNS Compliance Tester

Checking: 'nlnog.net' as at 2018-09-03T22:17:55Z

nlnog.net. @204.42.254.5 (puck.nether.net.): dns=ok edns=ok edns1=ok edns@5
ednsflags=ok docookie=ok edns512tcp=ok optlist=ok
nlnog.net. @2001:418:3f4::5 (puck.nether.net.): dns=ok edns=ok edns1=ok edns@5
ednsflags=ok docookie=ok edns512tcp=ok optlist=ok

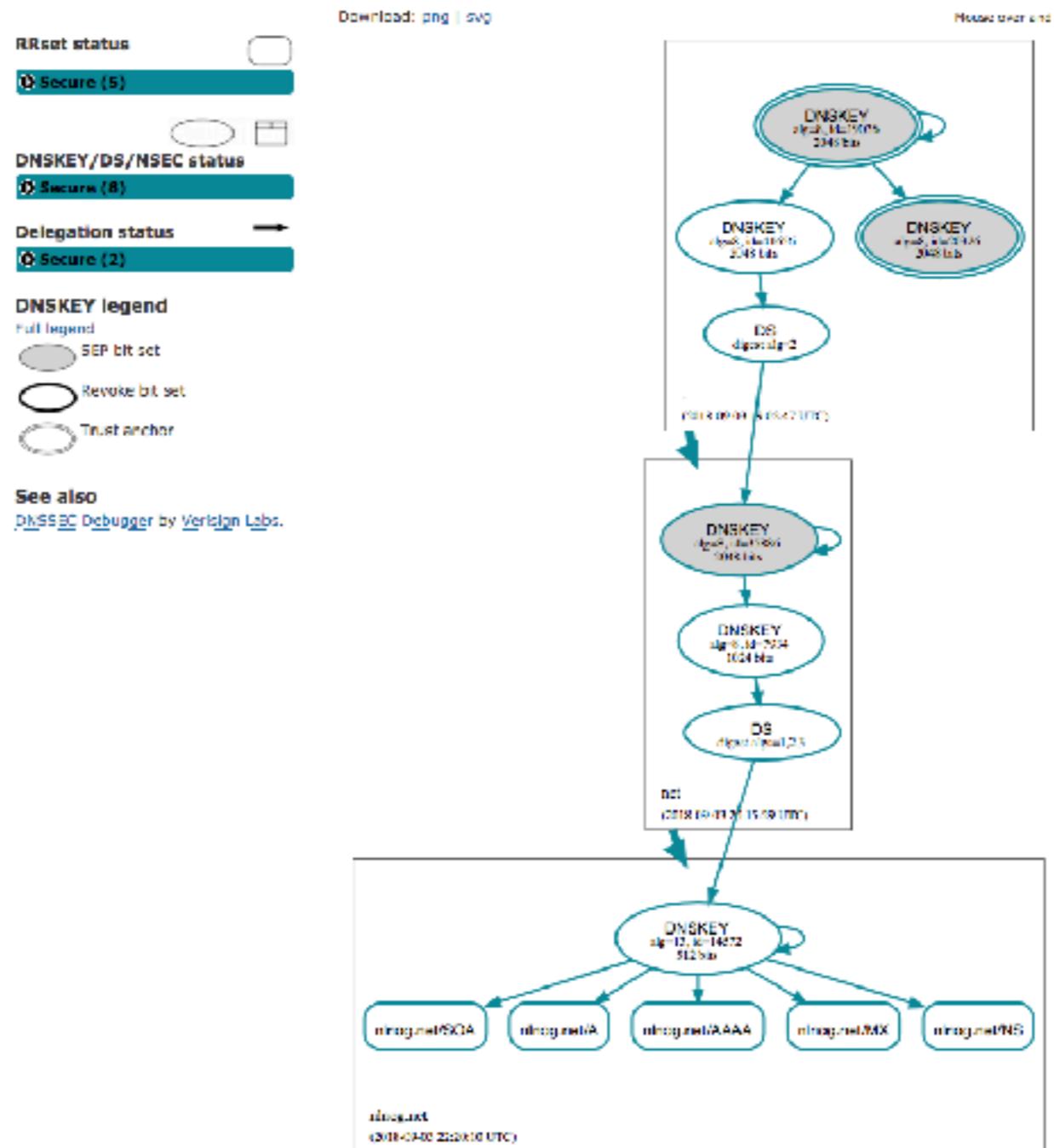
nlnog.net. @94.142.241.53 (ns1.6core.net.): dns=ok edns=ok edns1=ok edns@51
ednsflags=ok docookie=ok edns512tcp=ok optlist=ok,nsid (caladan.6core.net)
nlnog.net. @2a02:898:52:1::1 (ns1.6core.net.): dns=ok edns=ok edns1=ok edns@51
ednsflags=ok docookie=ok edns512tcp=ok optlist=ok,nsid (caladan.6core.net)

nlnog.net. @83.247.10.51 (a.ns.meerval.net.): dns=ok edns=ok edns1=ok edns@51
ednsflags=ok docookie=ok edns512tcp=ok optlist=ok,nsid (skein.6core.net)
nlnog.net. @2001:9e0:803:99::51 (a.ns.meerval.net.): dns=ok edns=ok edns1=ok edns@51
ednsflags=ok docookie=ok edns512tcp=ok optlist=ok,nsid (skein.6core.net)

All Ok

Are you ready?

<http://dnsviz.net/>



Spoofing

Resolver

Auth

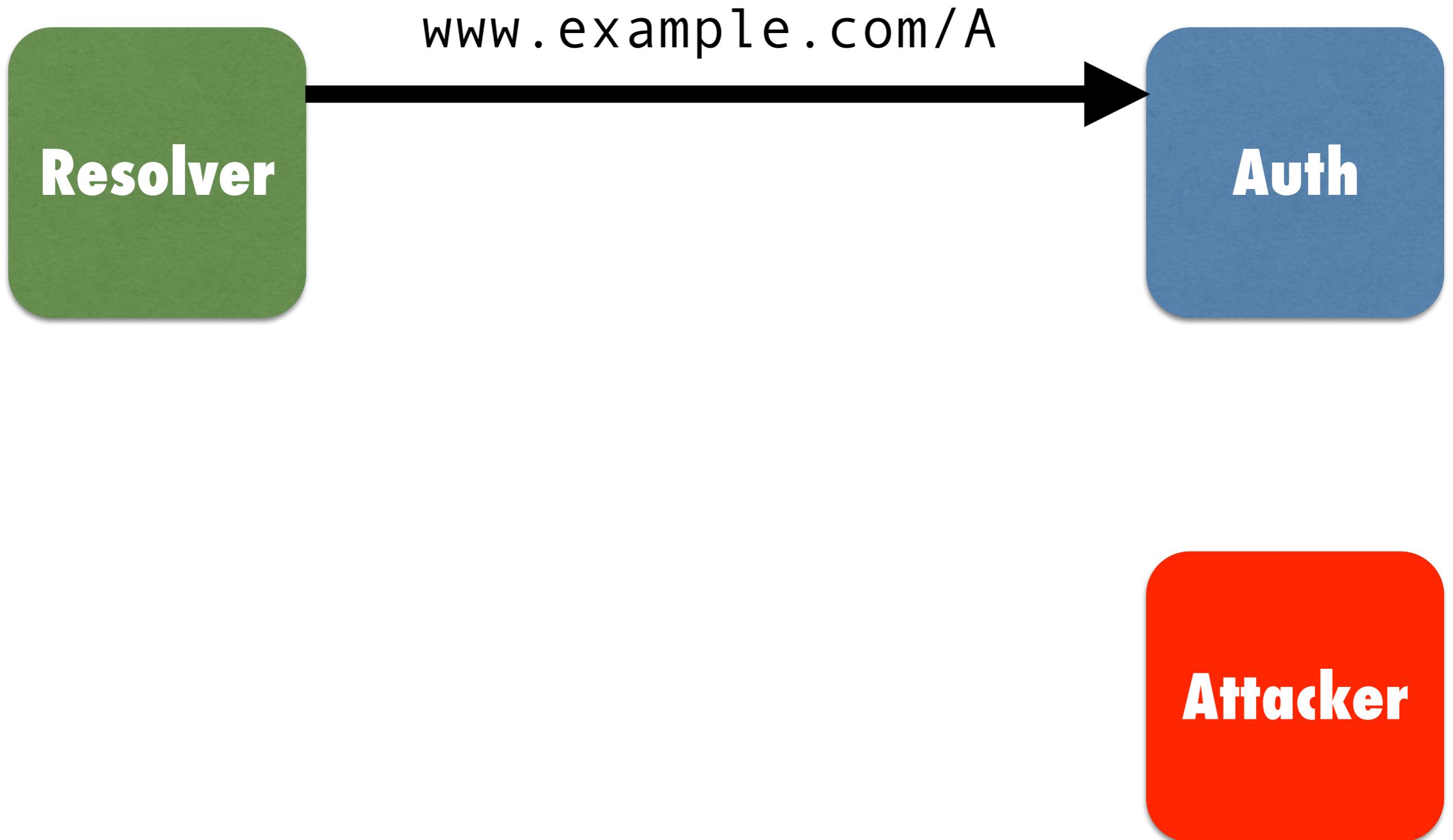
Spoofing



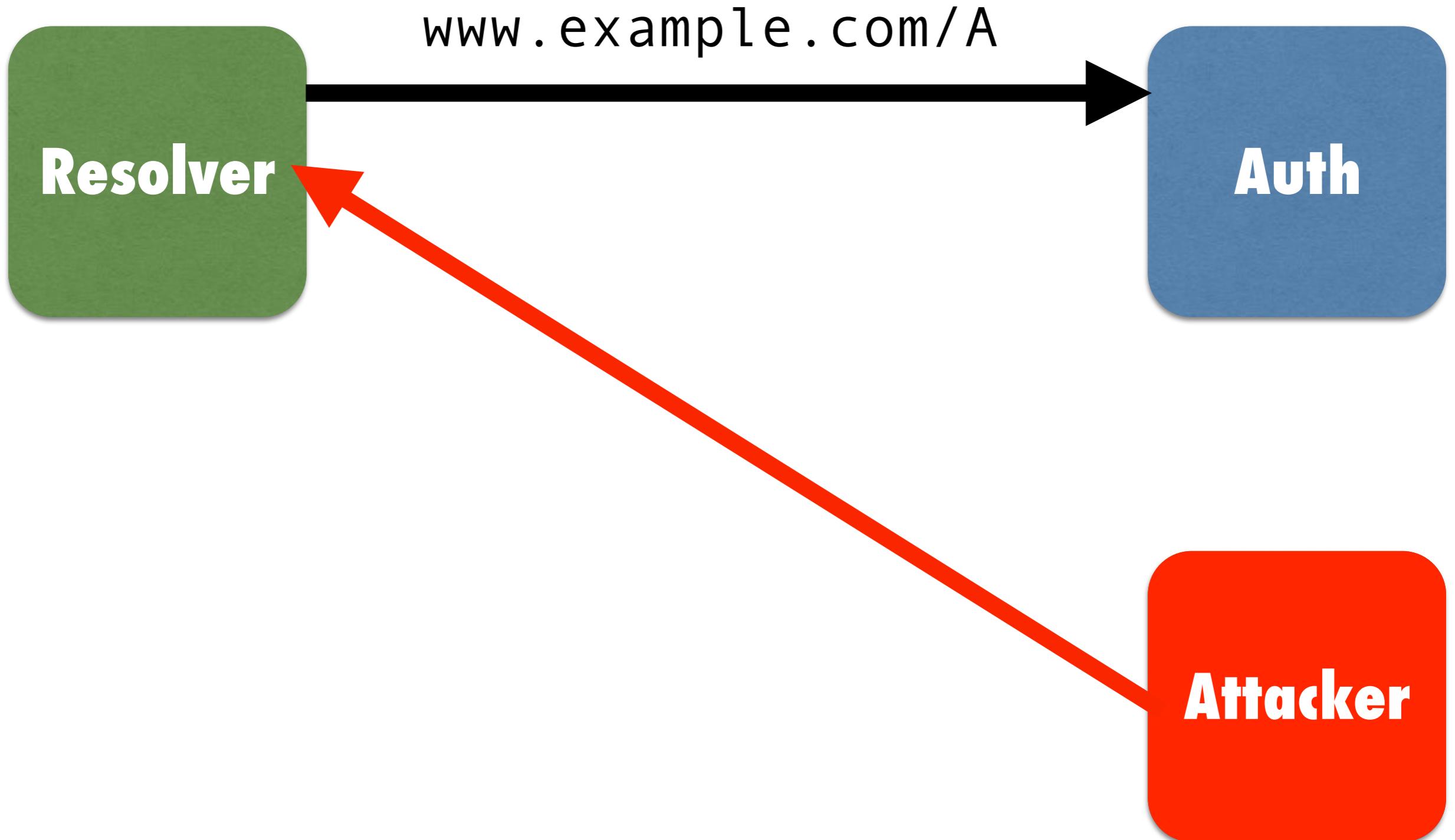
Spoofing



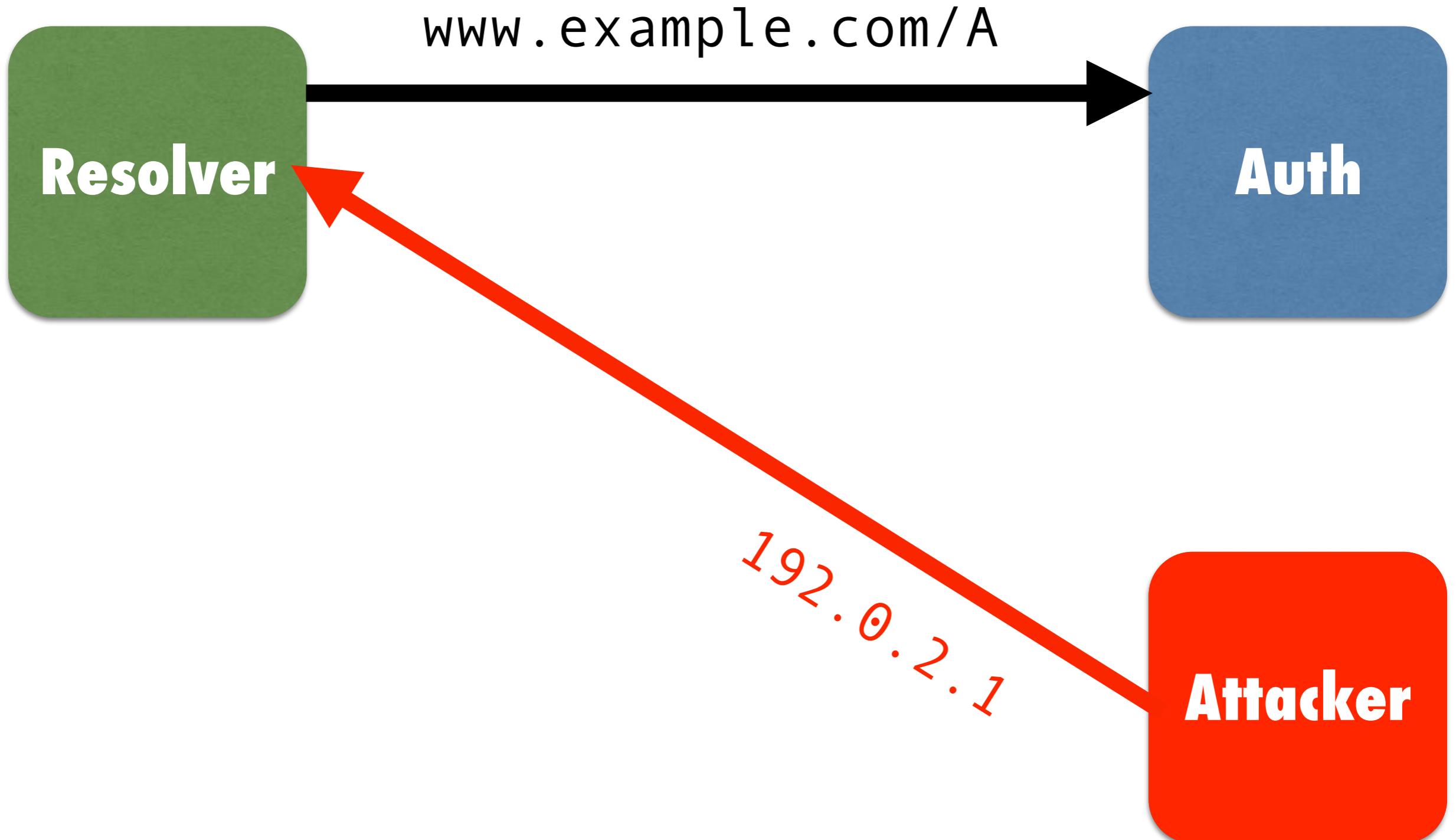
Spoofing



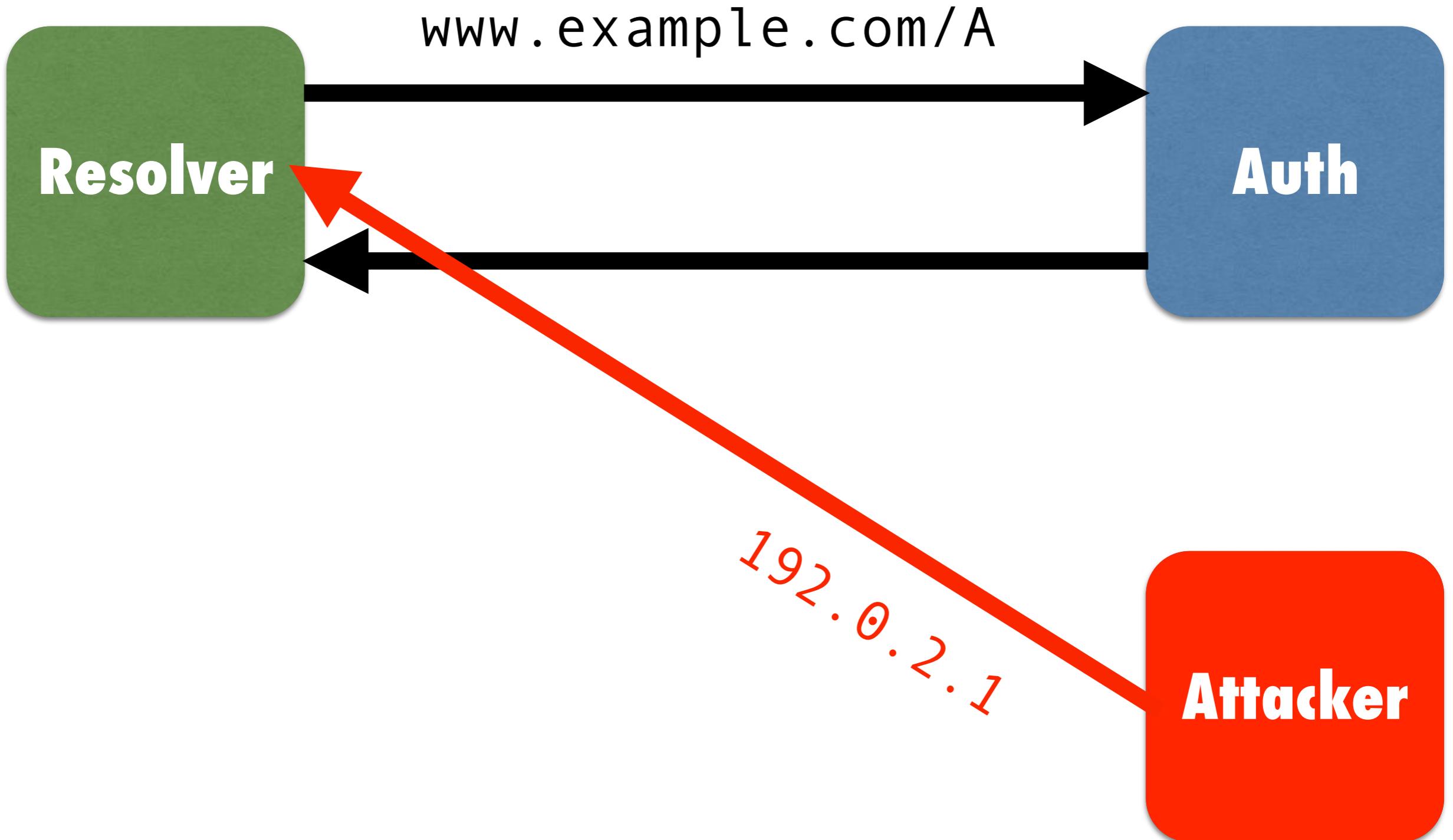
Spoofing



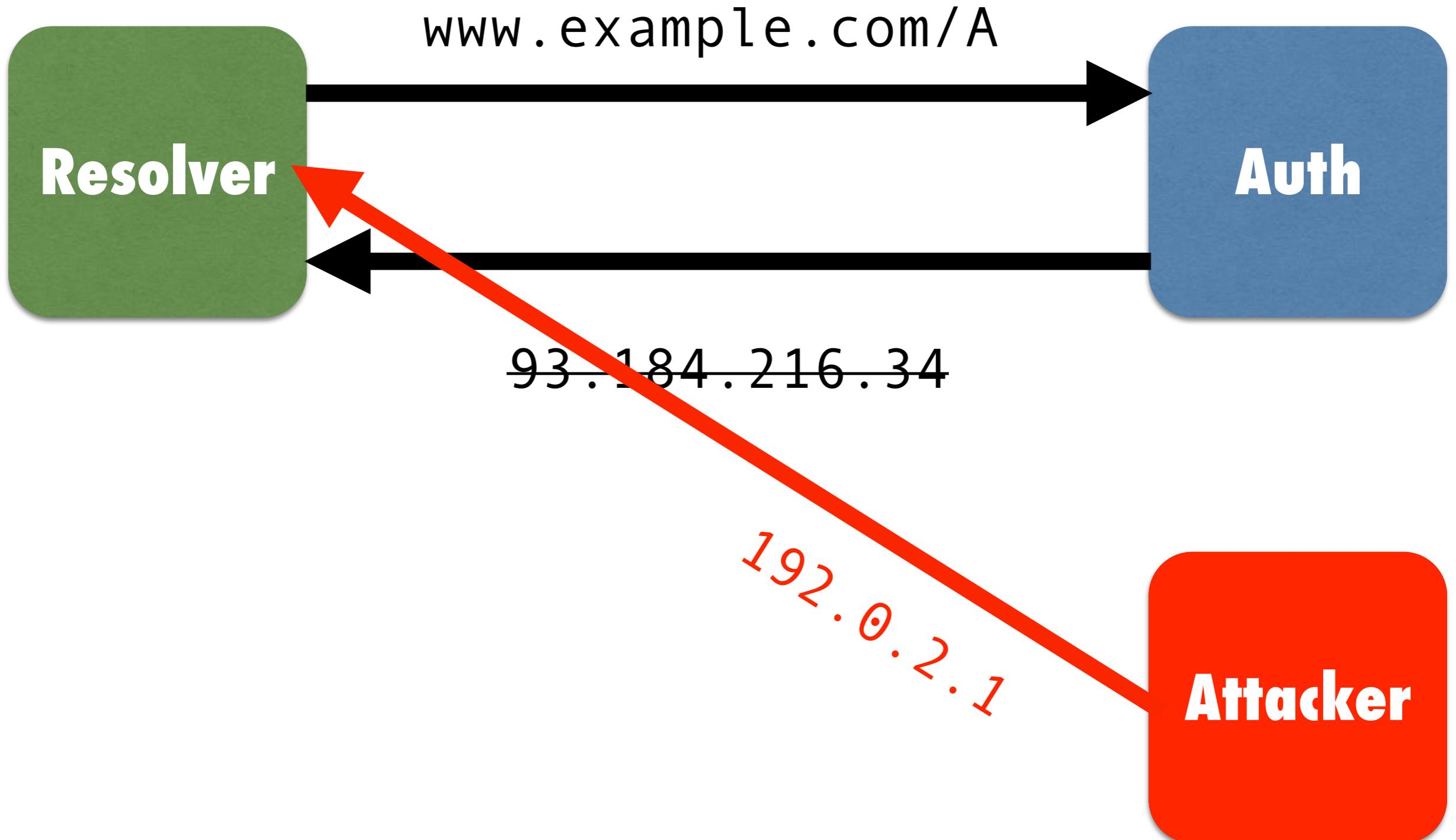
Spoofing



Spoofing

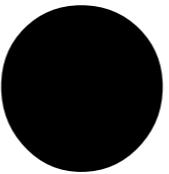


Spoofing



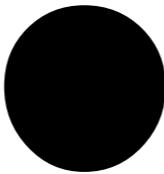
Questions?

?



Questions?

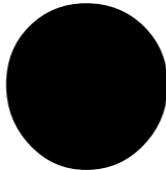
?



/Habbie

Questions?

?



/Habbie

peter.van.dijk@powerdns.com

The DNS flag day: future-proofing the DNS

Peter van Dijk
Senior Engineer

