

The DNS flag day: future-proofing the DNS

Peter van Dijk
Senior Engineer



Client requests



Client

Client requests



Client



Resolver

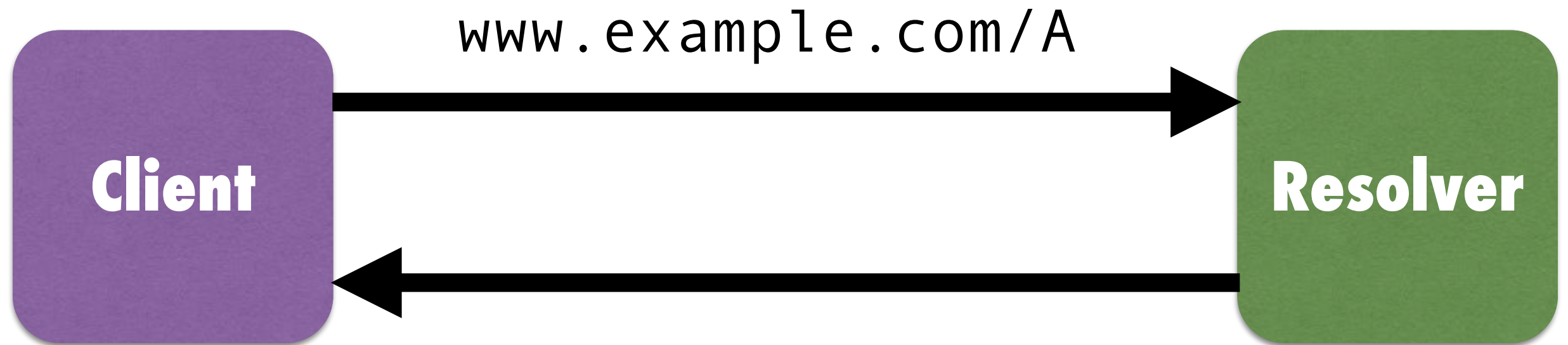
Client requests



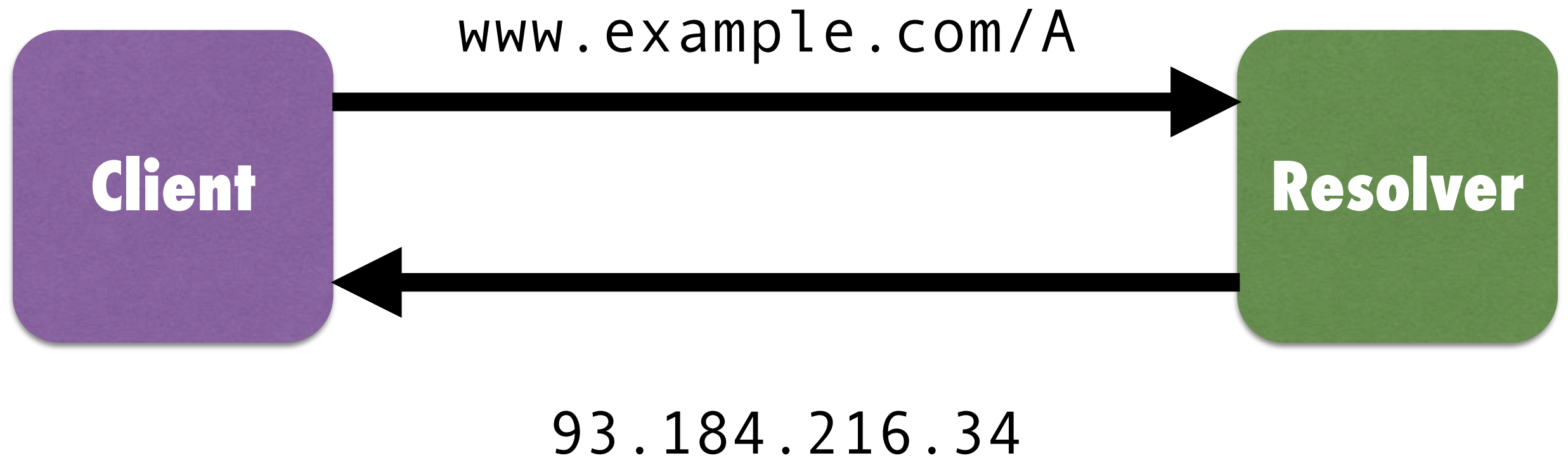
Client requests



Client requests



Client requests



Recursion

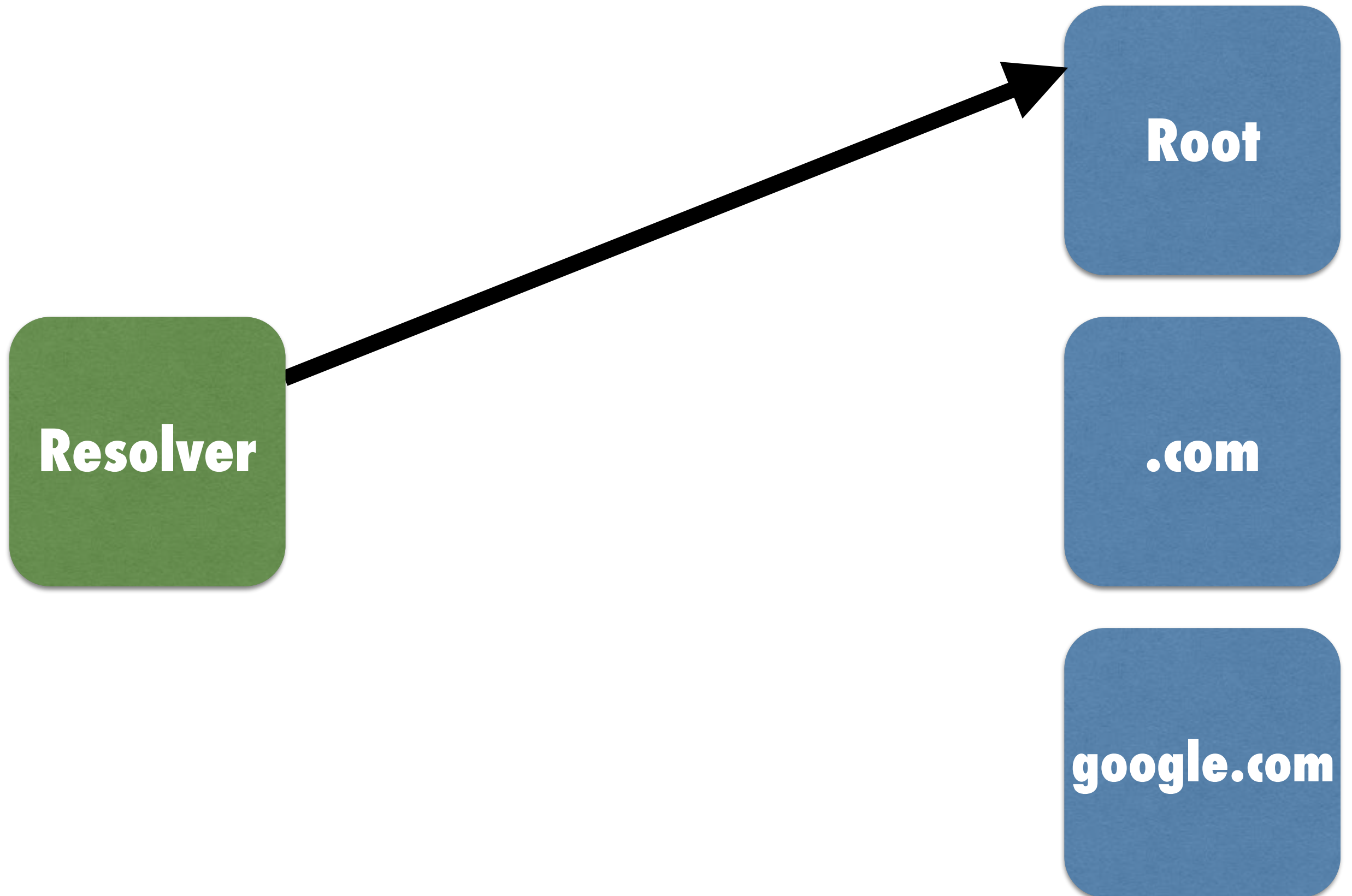
Resolver

Root

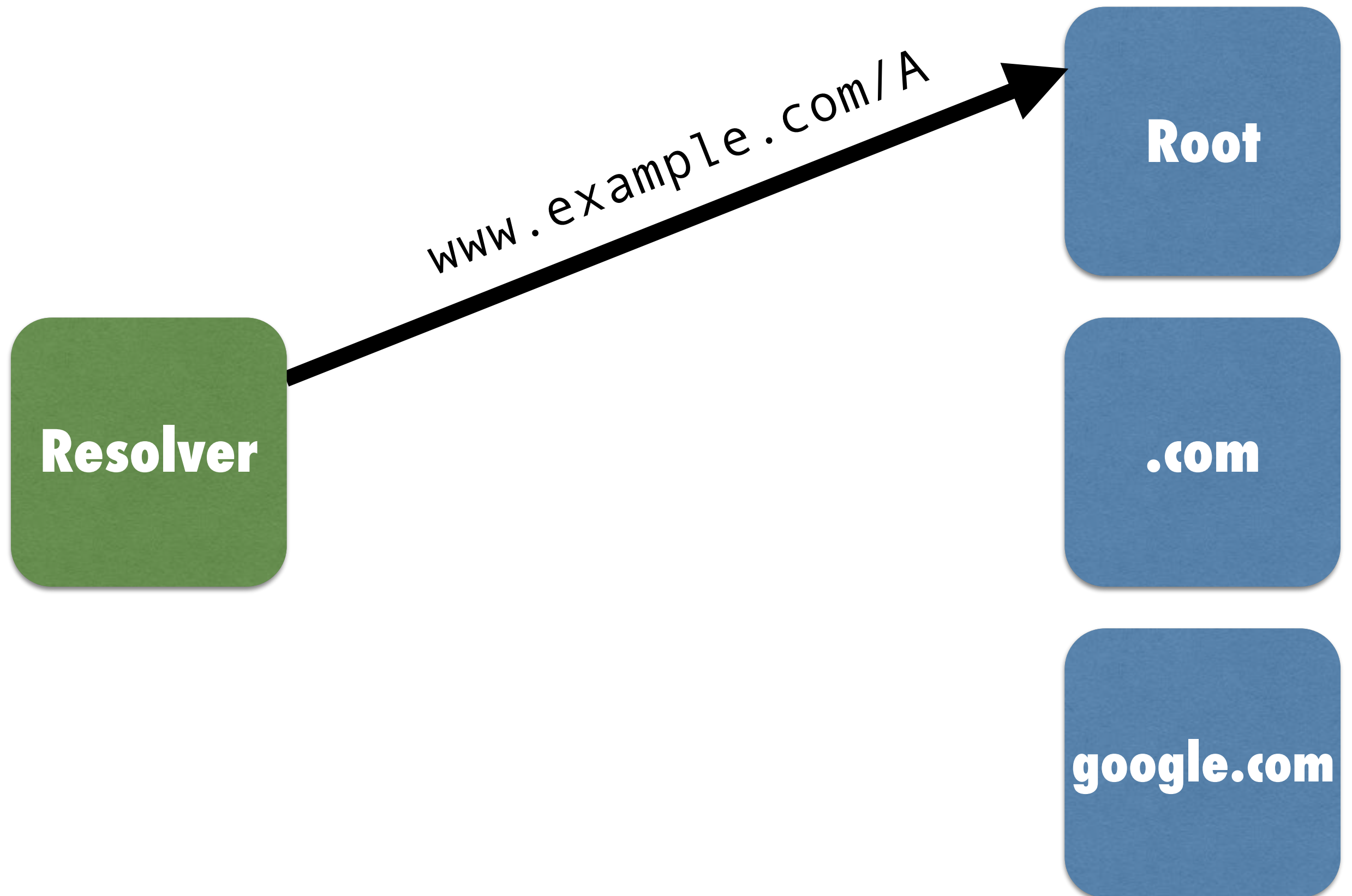
.com

google.com

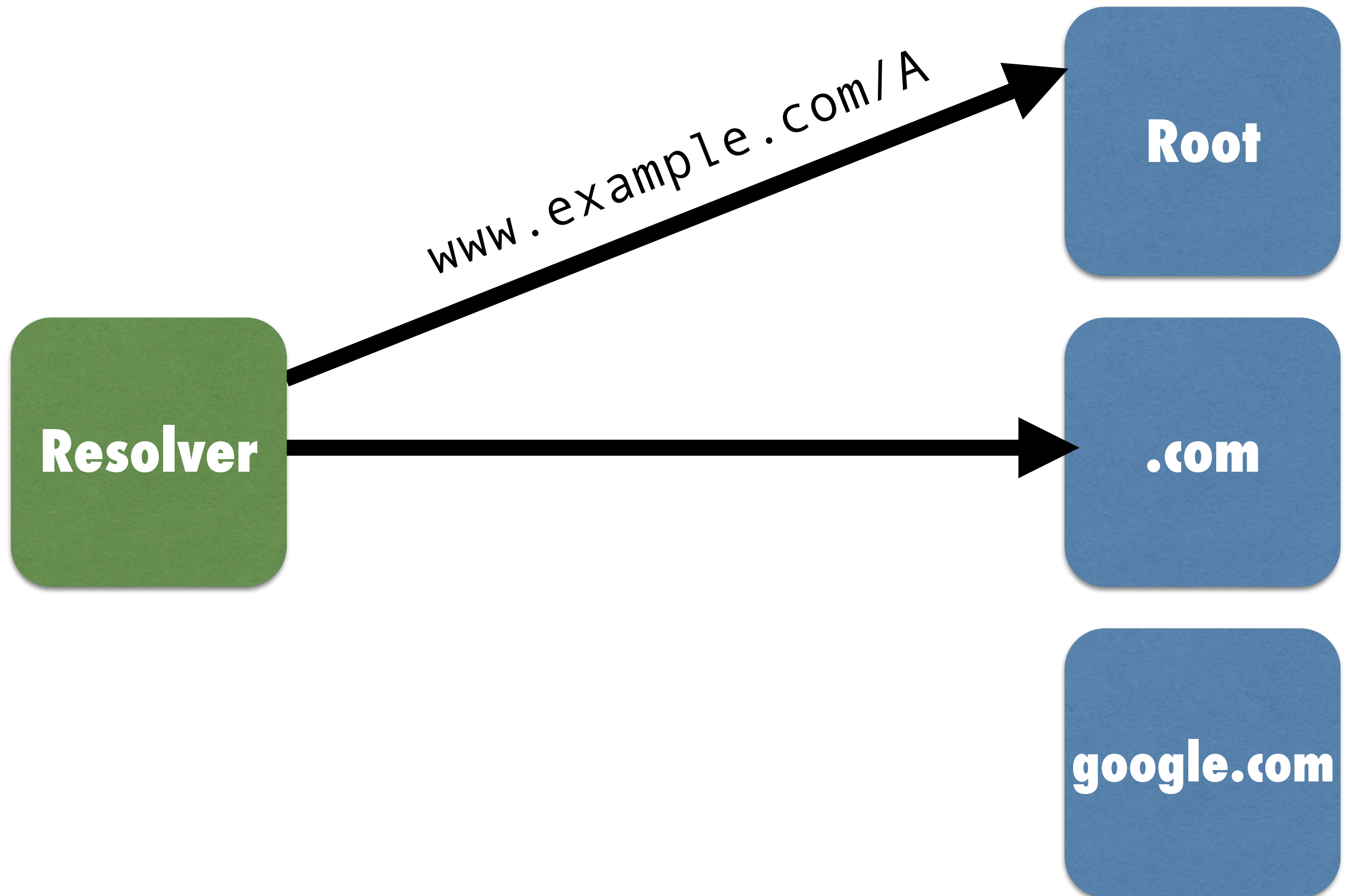
Recursion



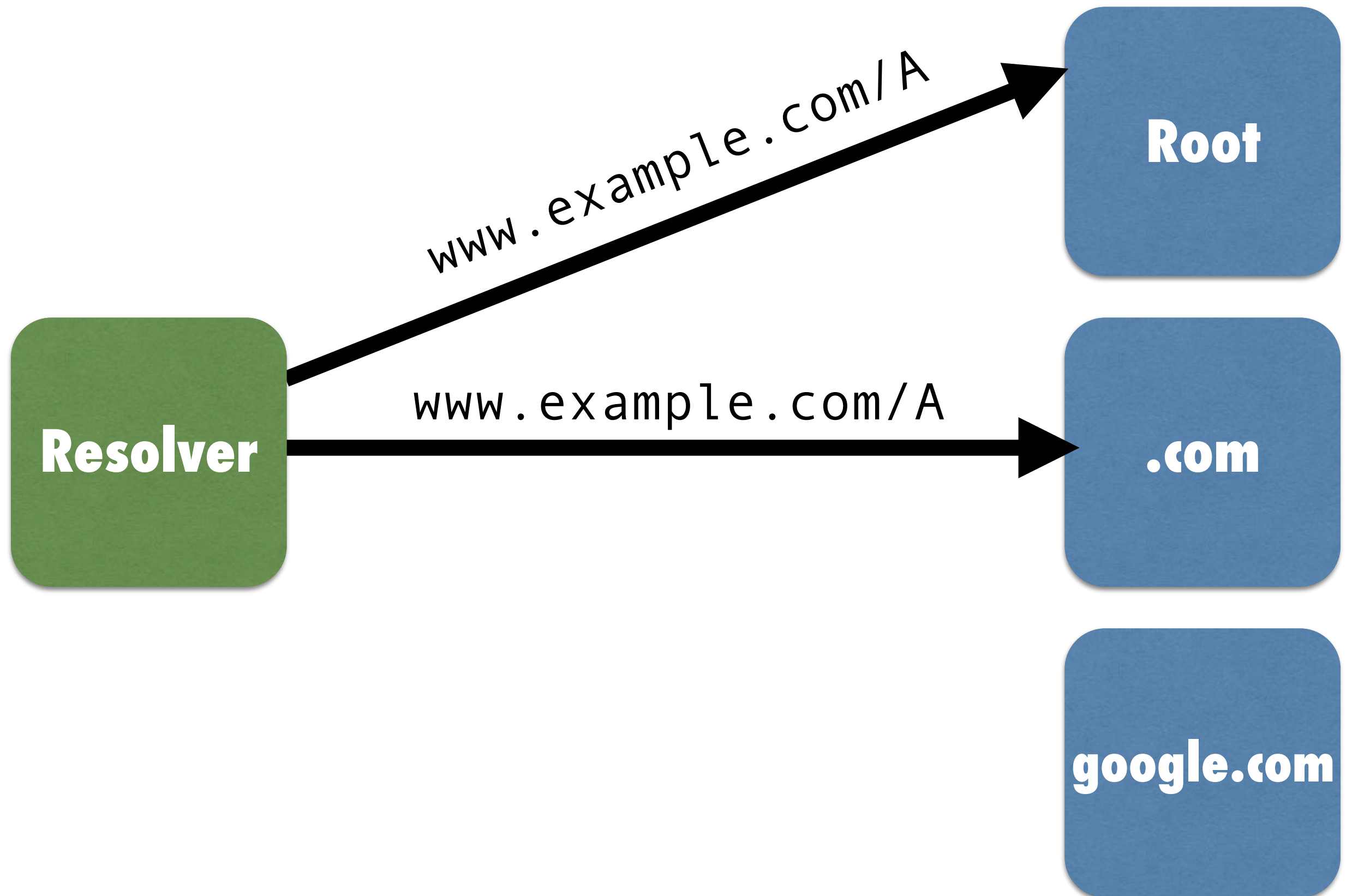
Recursion



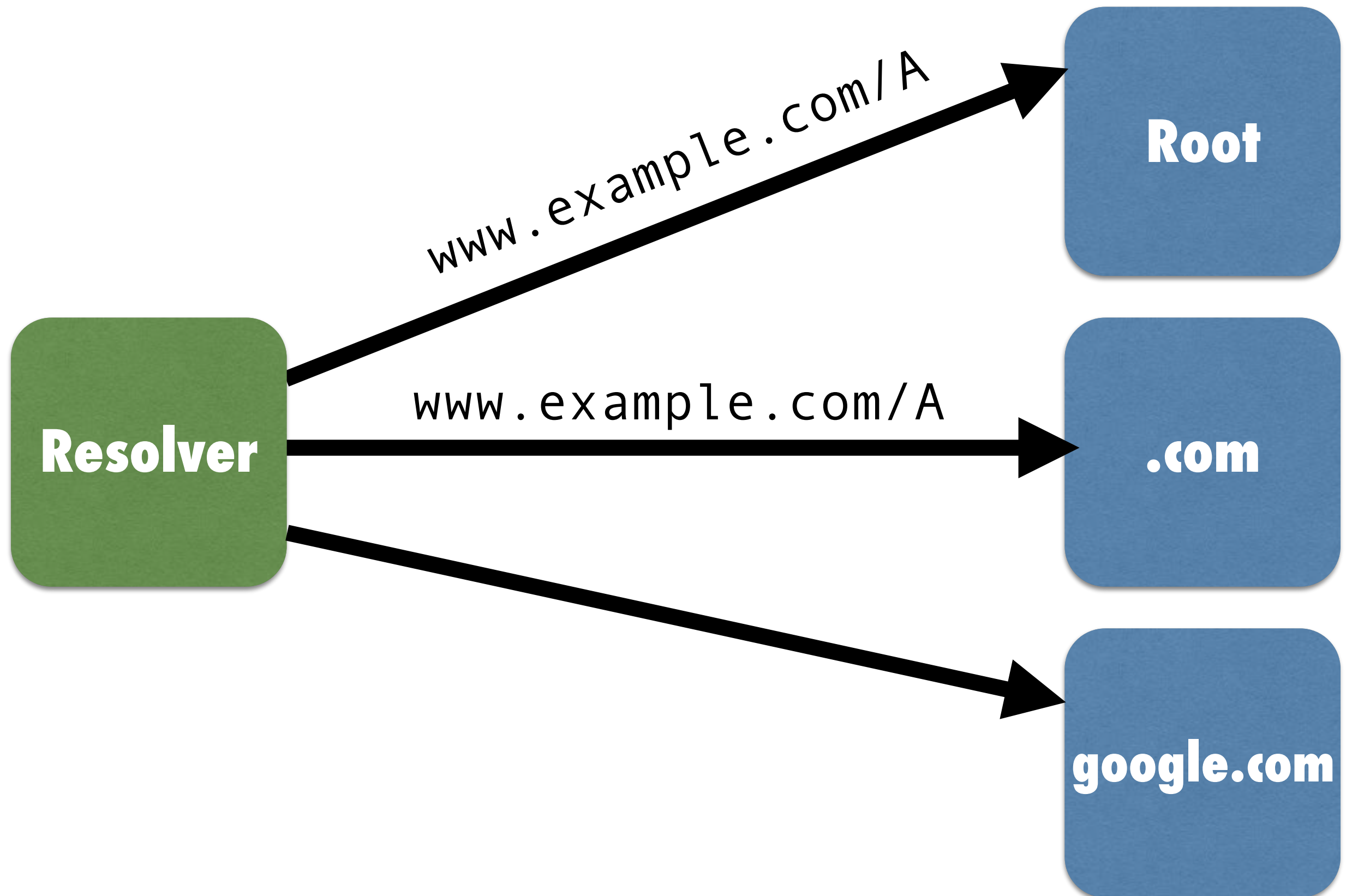
Recursion



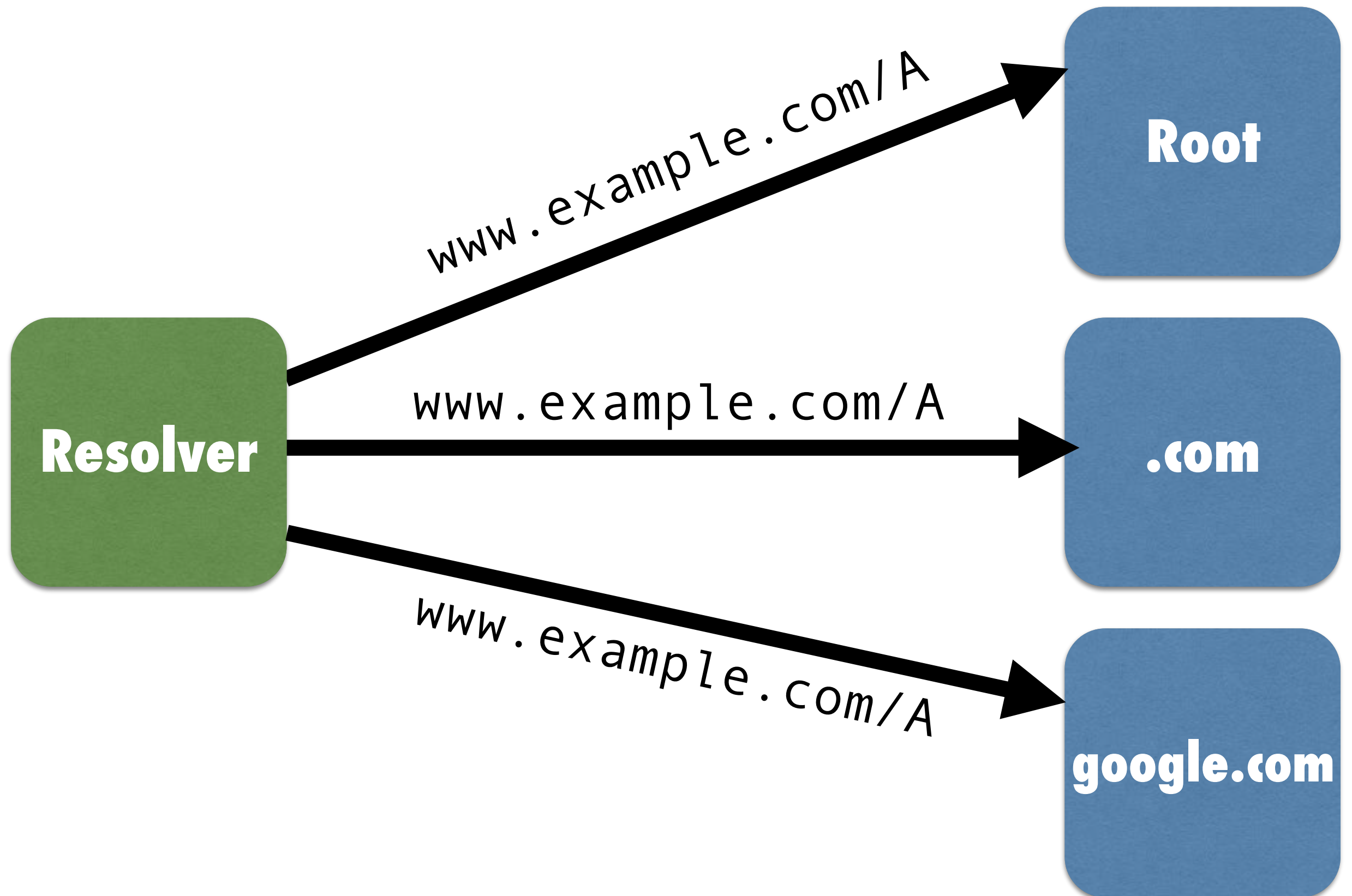
Recursion



Recursion



Recursion



Recursion with EDNS



Resolver



Auth

Recursion with EDNS



Recursion with EDNS



Recursion with EDNS



Recursion with EDNS



FORMERR

Recursion with EDNS



FORMERR
SERVFAIL

Recursion with EDNS



FORMERR

SERVFAIL

NXDOMAIN

Recursion with EDNS



FORMERR

SERVFAIL

NXDOMAIN

NOTIMP

Recursion with EDNS



FORMERR

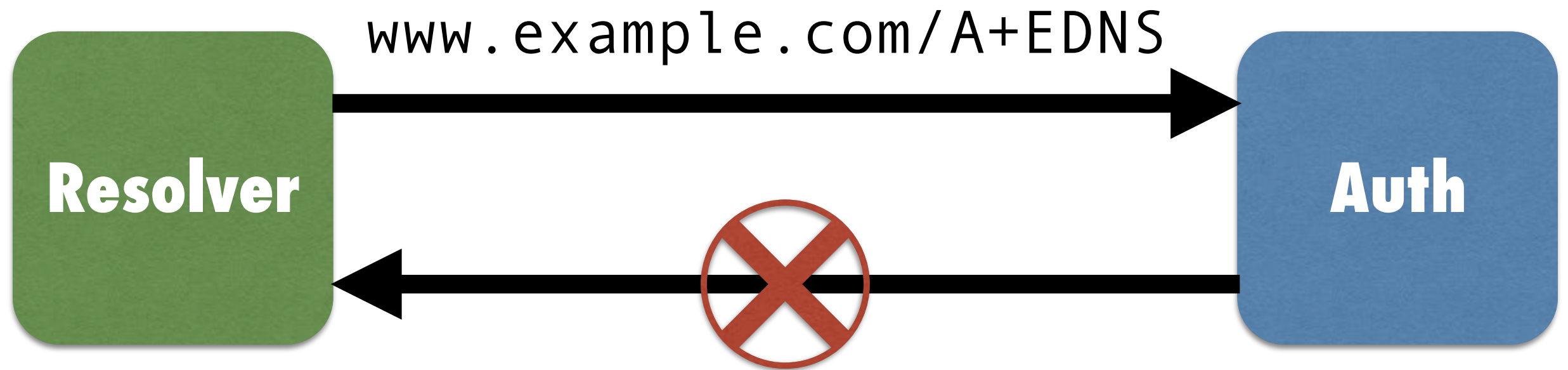
SERVFAIL

NXDOMAIN

NOTIMP

empty answer

Recursion with EDNS



FORMERR

SERVFAIL

NXDOMAIN

NOTIMP

empty answer

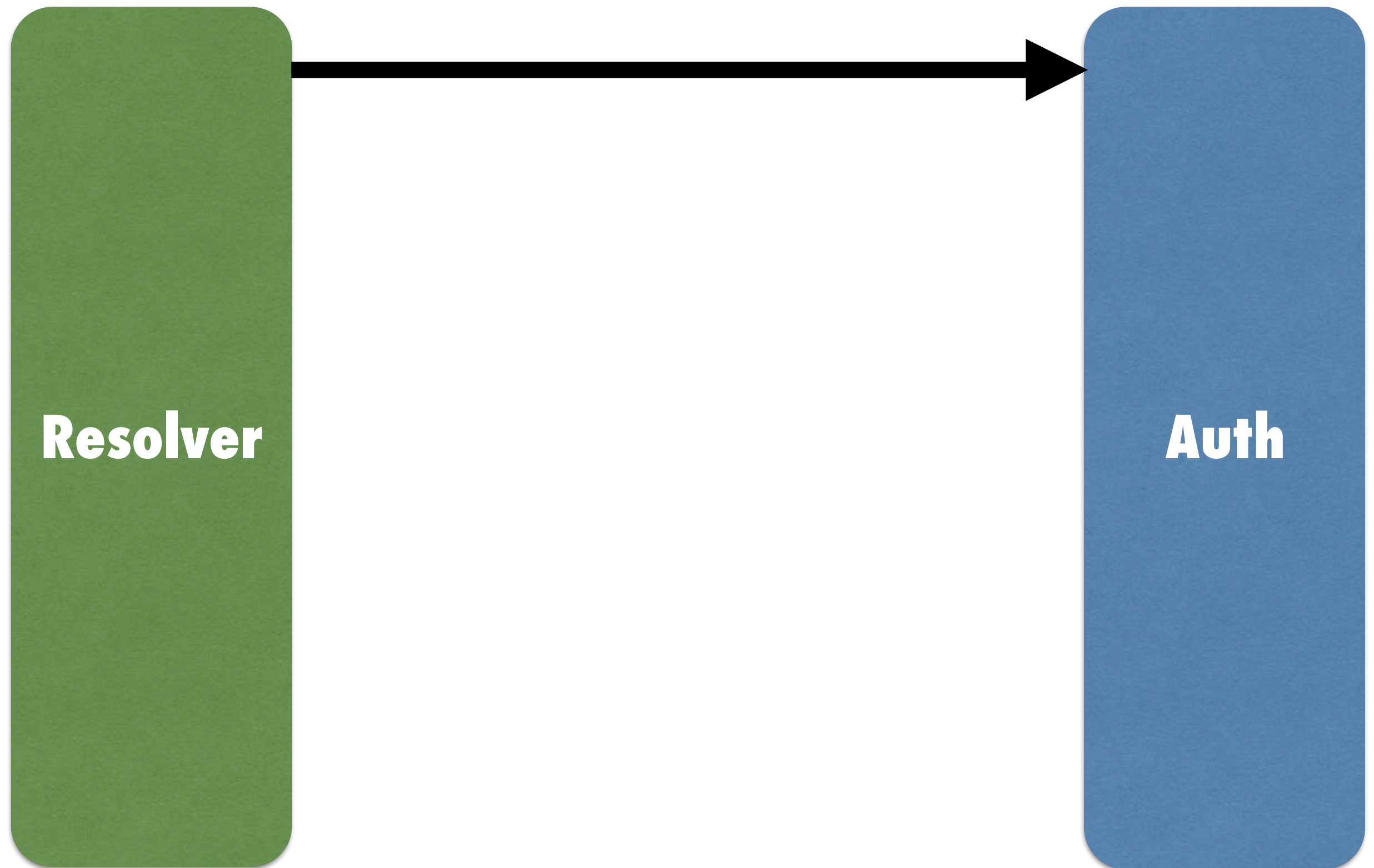
EDNS fallback, today



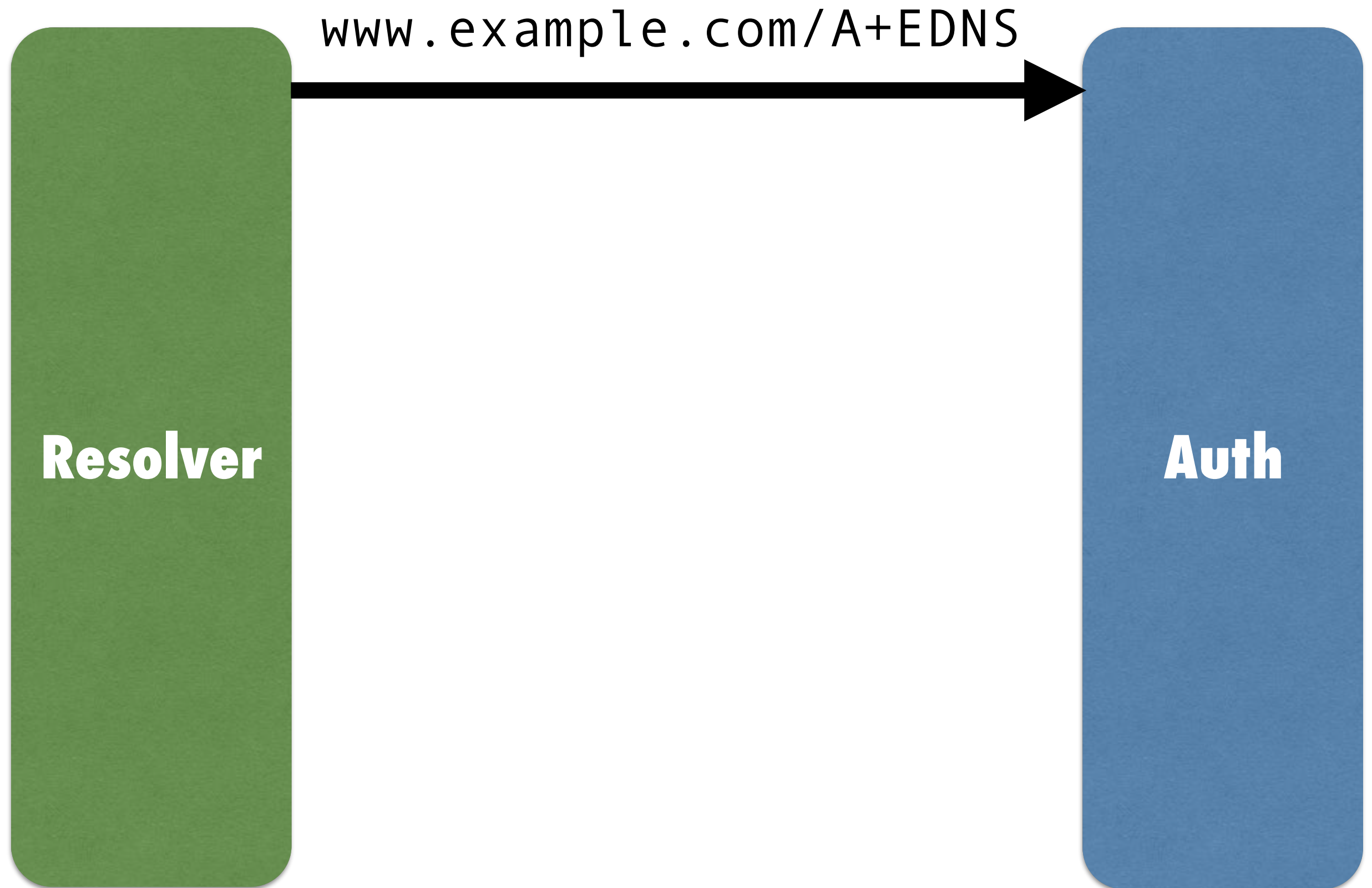
Resolver

Auth

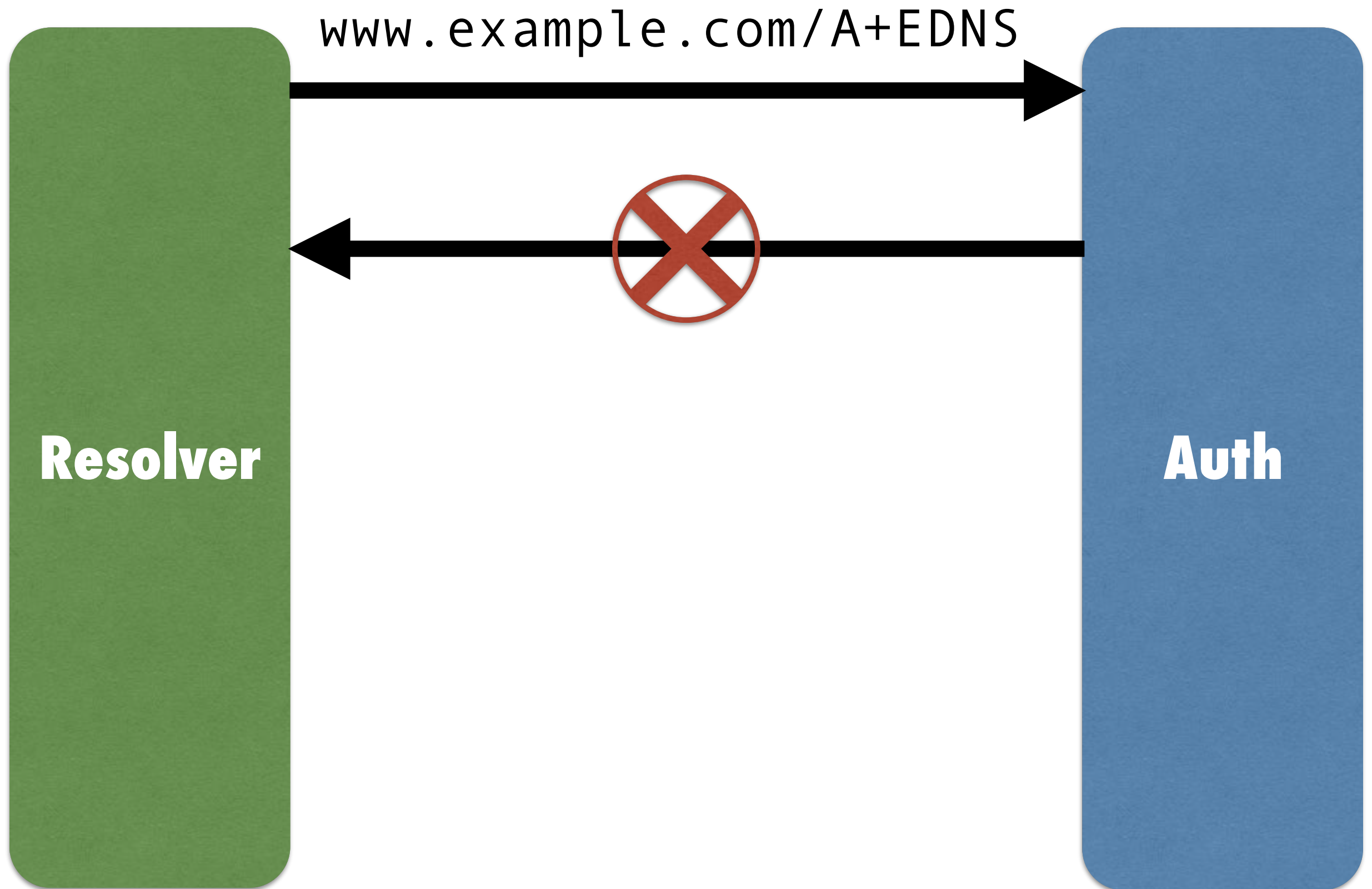
EDNS fallback, today



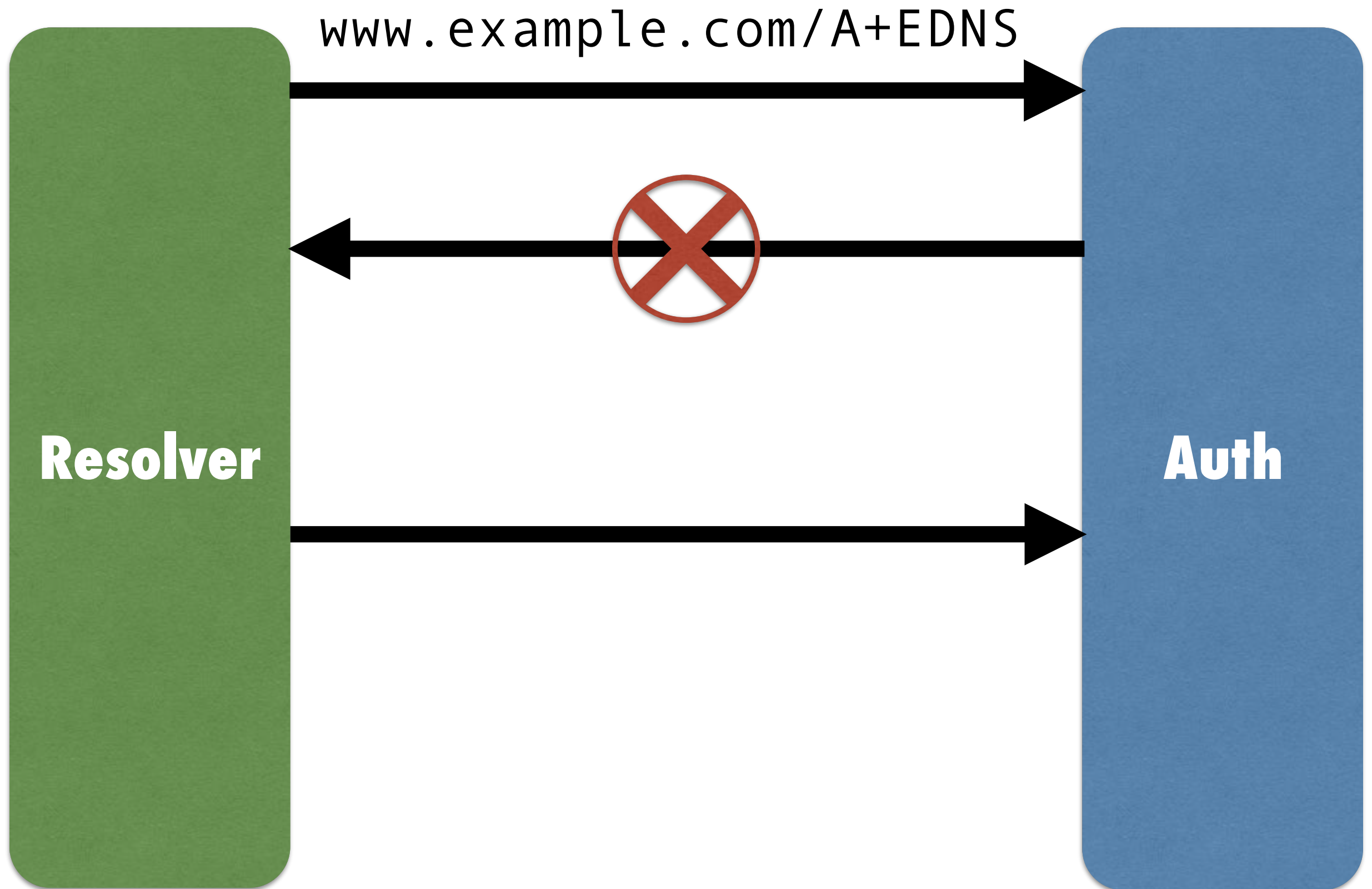
EDNS fallback, today



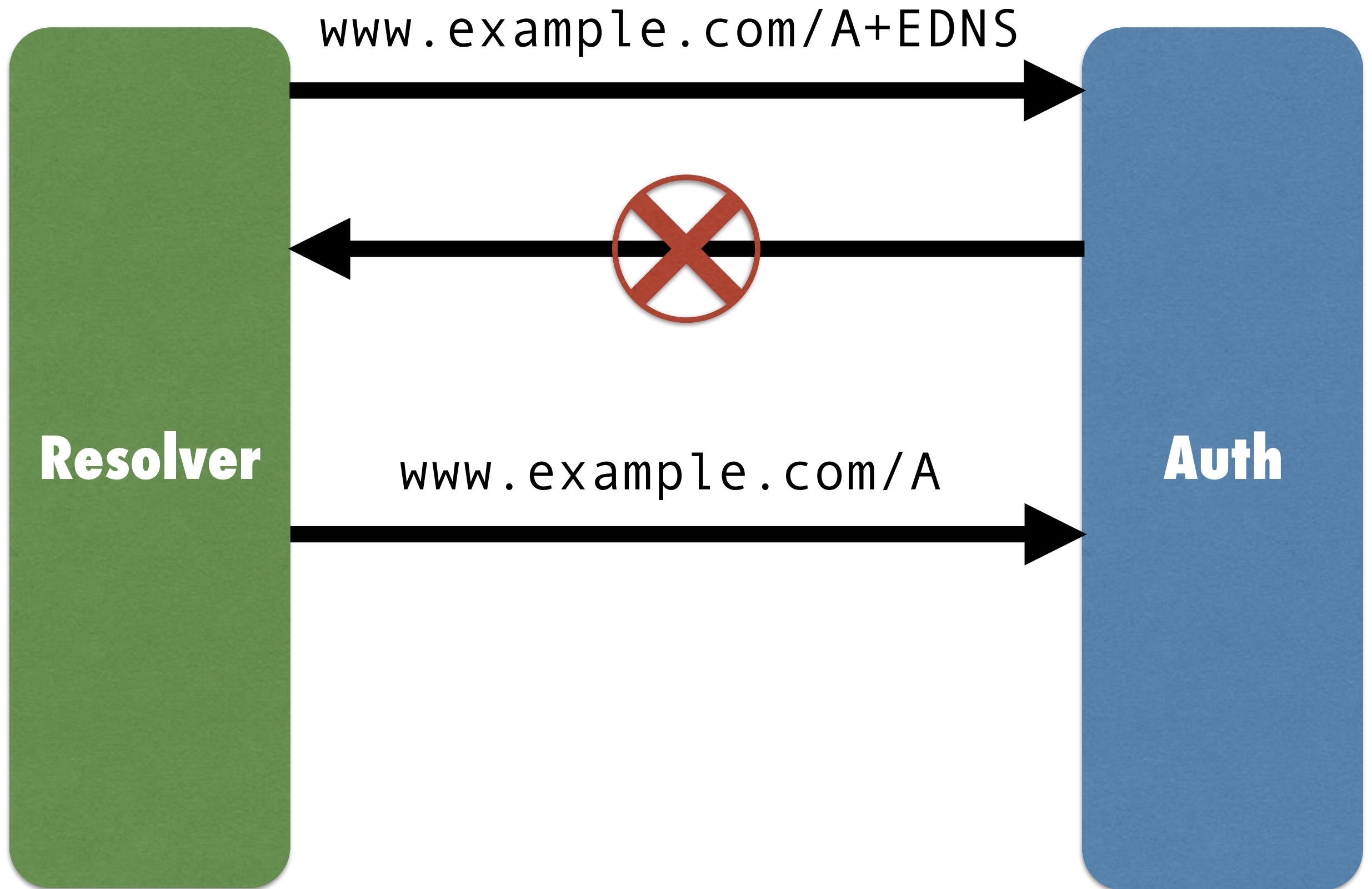
EDNS fallback, today



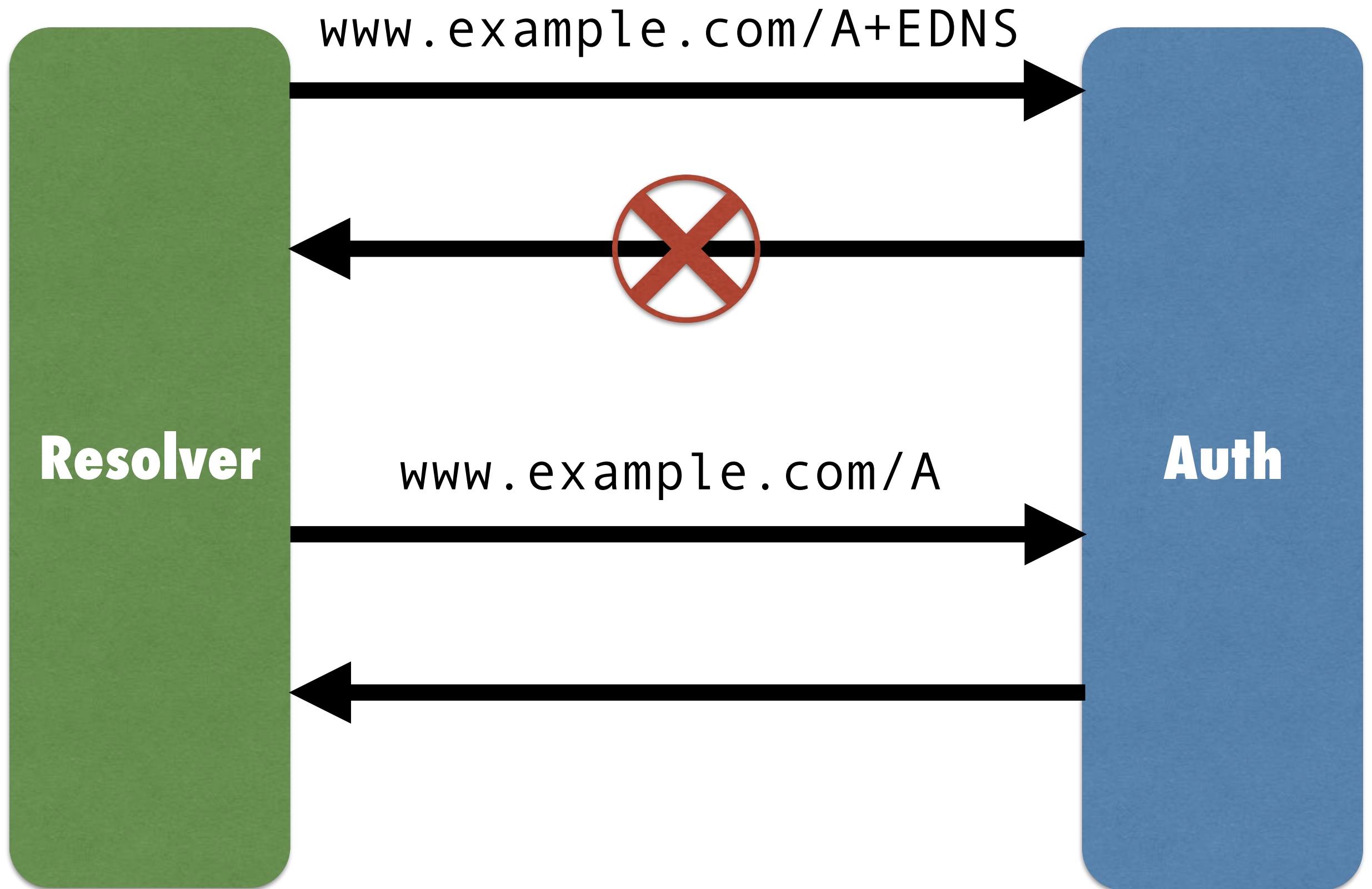
EDNS fallback, today



EDNS fallback, today



EDNS fallback, today



A change is coming



Internet Systems
Consortium



NLNETLABS

POWERDNS
AN **OX** COMPANY

CZ.nic

After Feb 1st, 2019

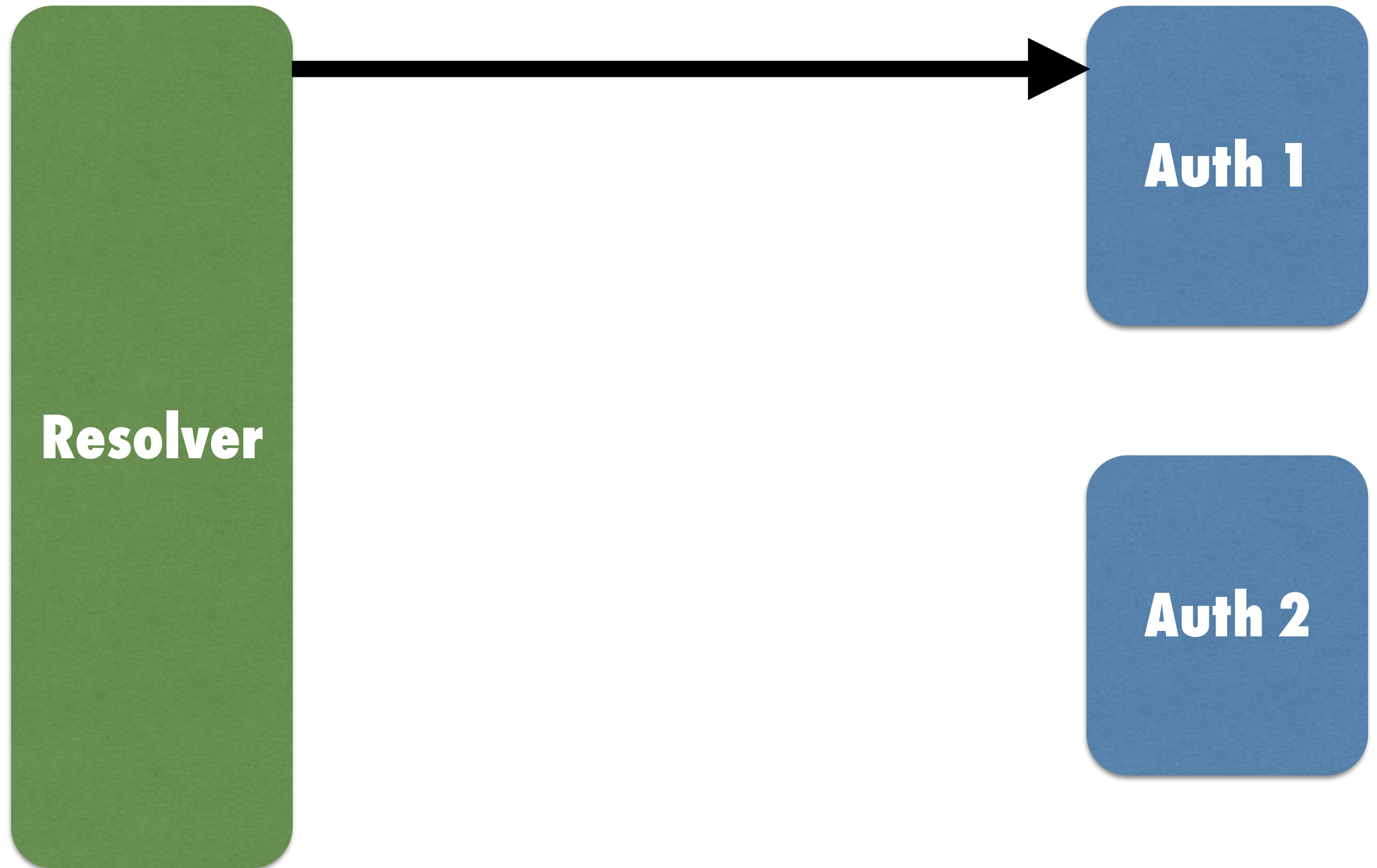


Resolver

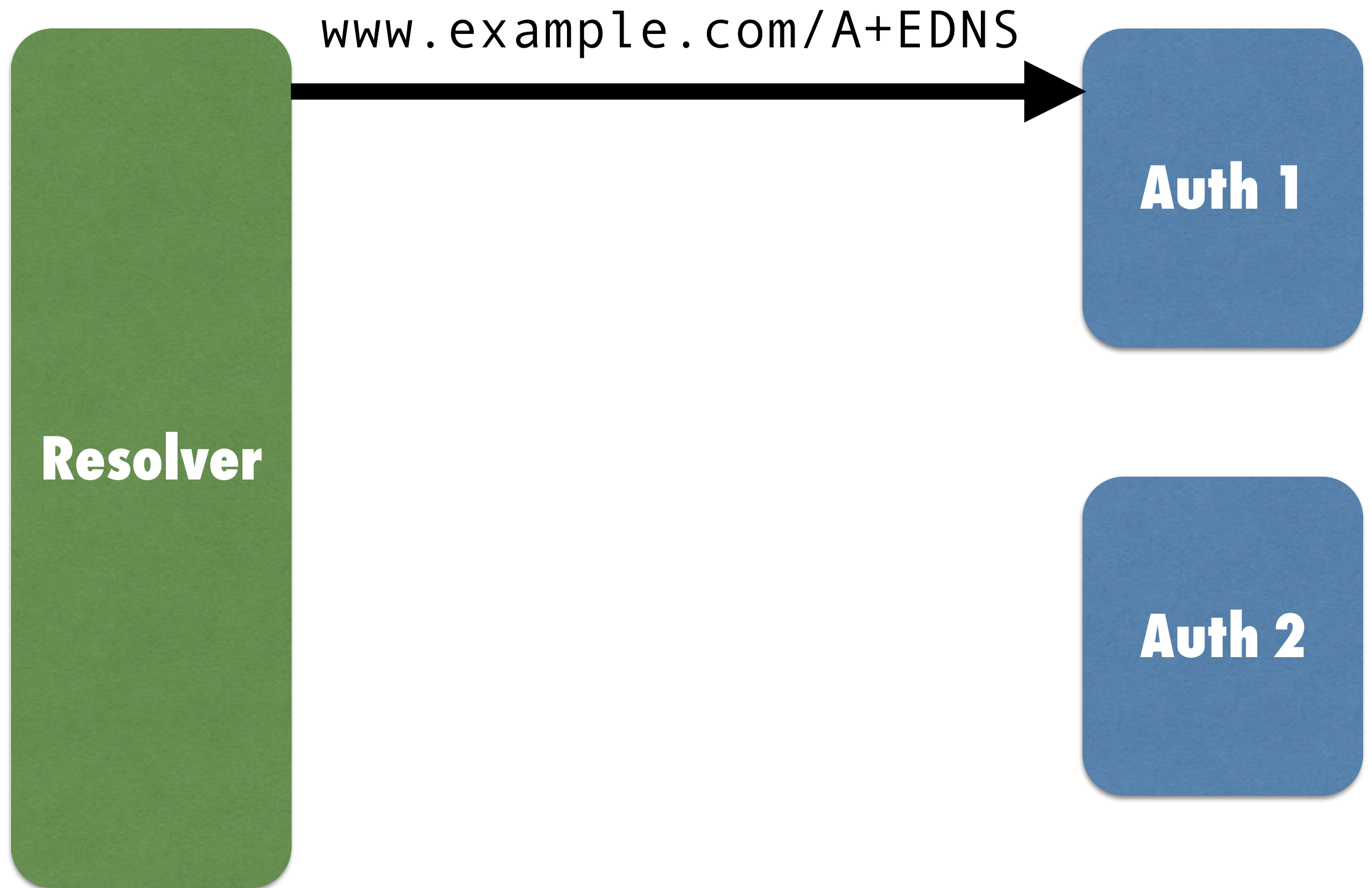
Auth 1

Auth 2

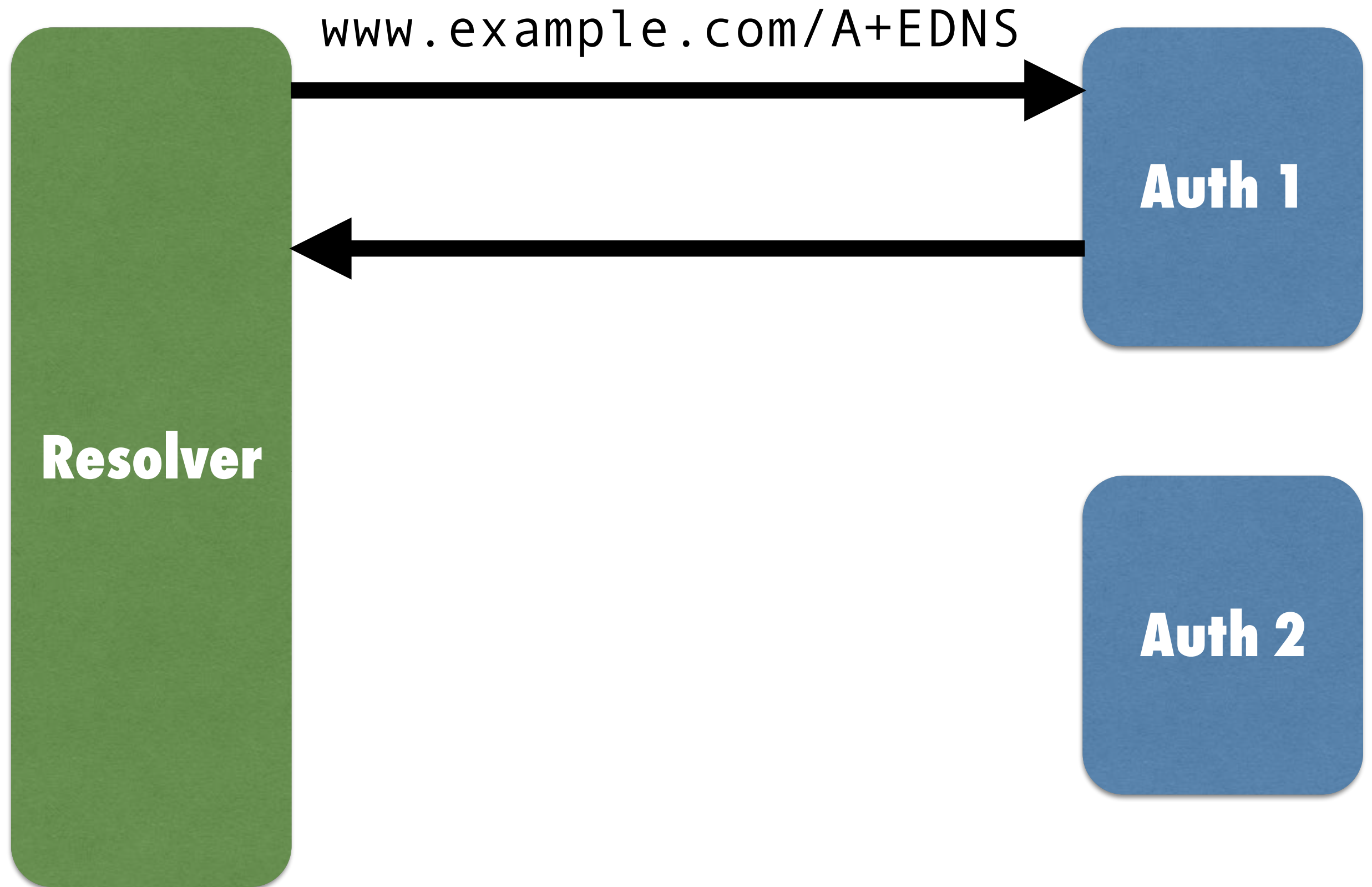
After Feb 1st, 2019



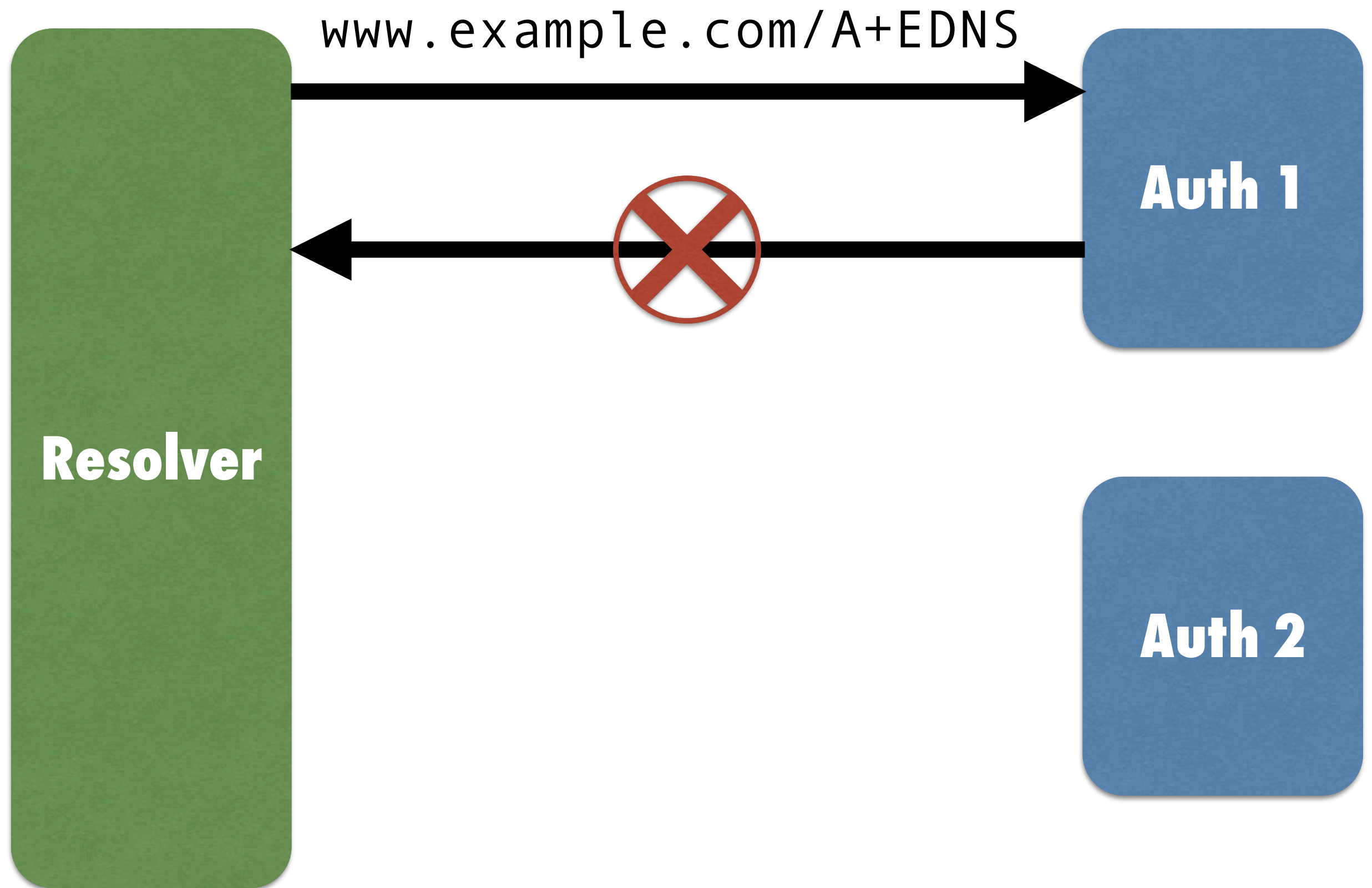
After Feb 1st, 2019



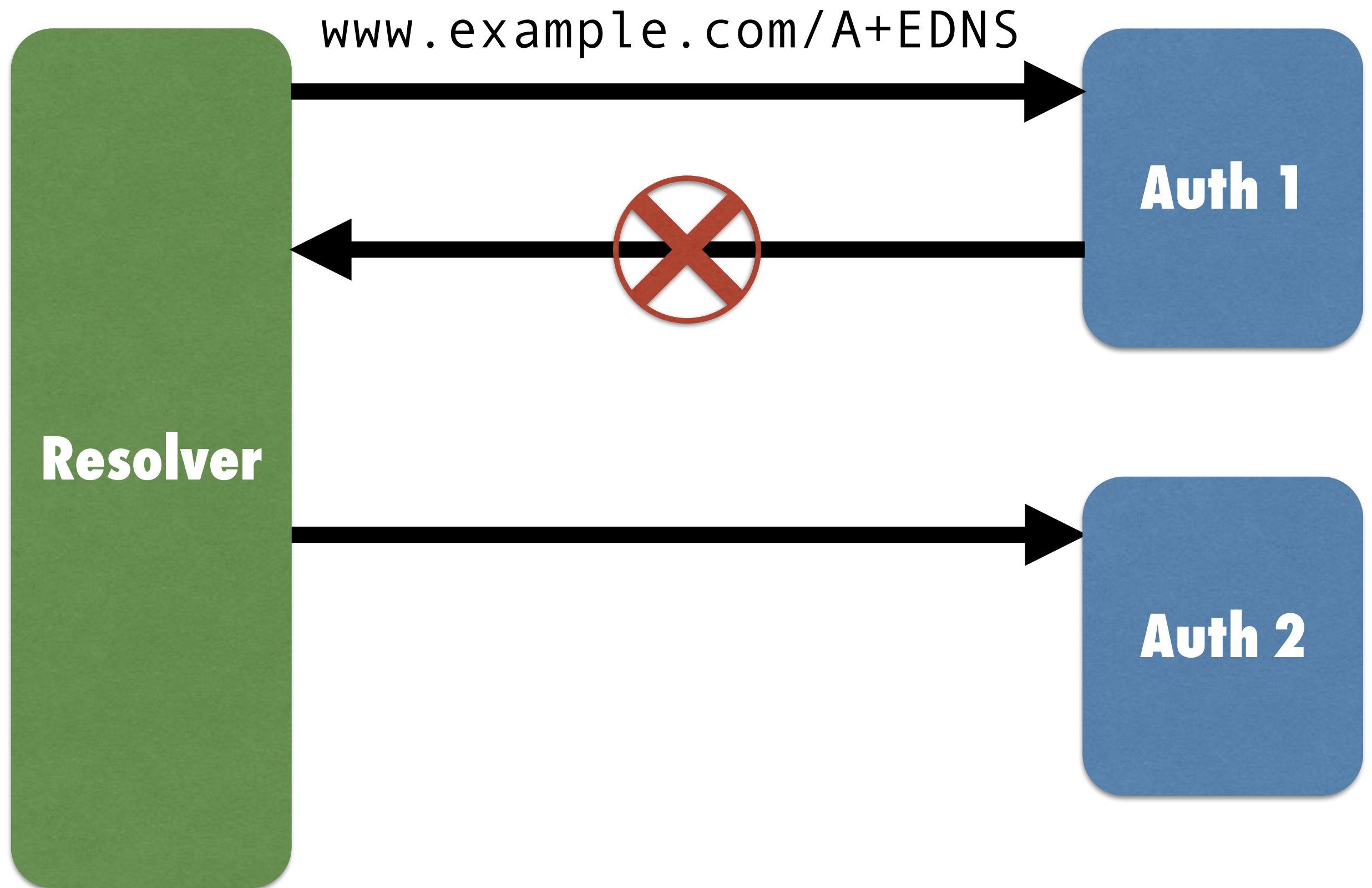
After Feb 1st, 2019



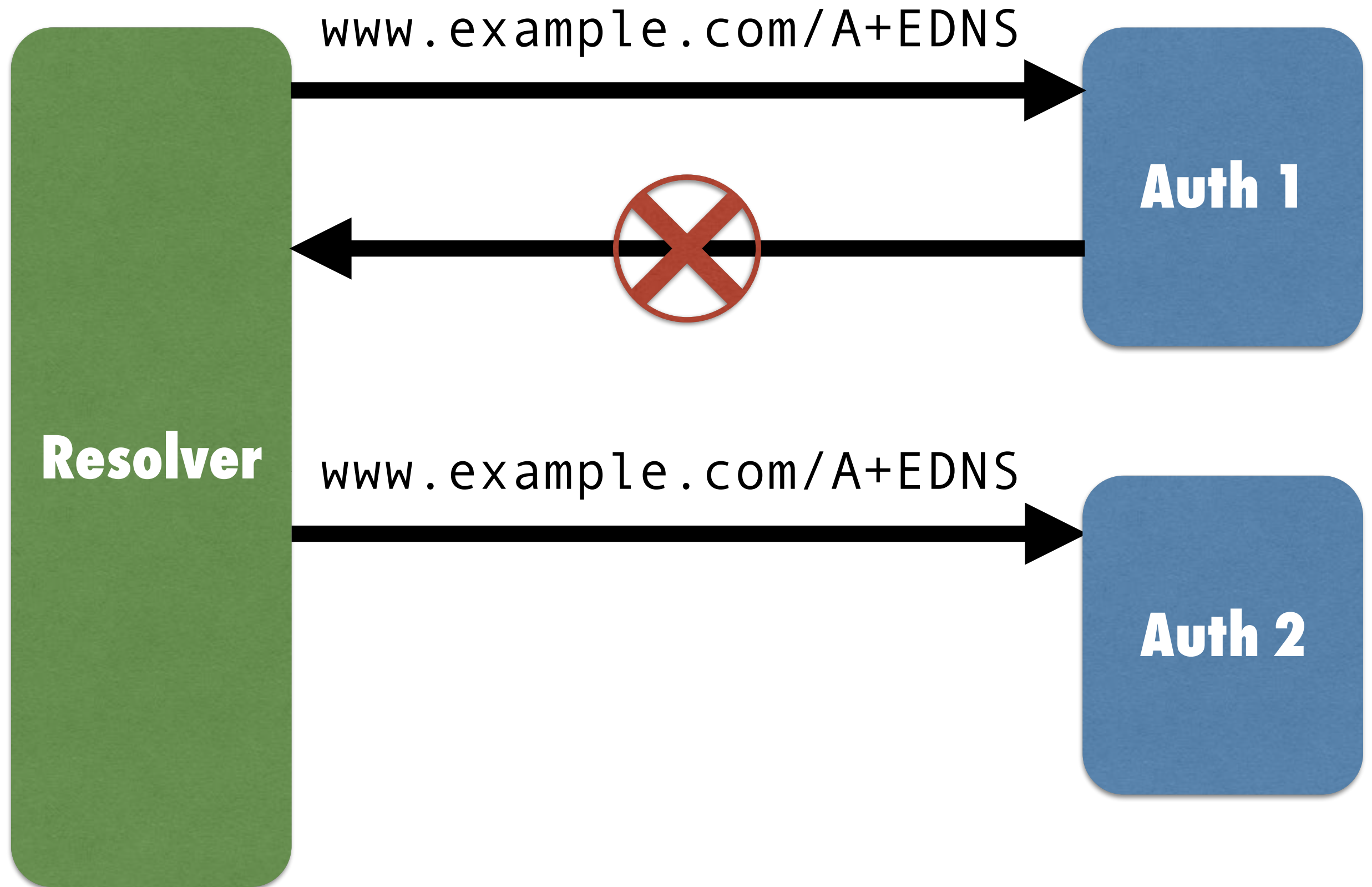
After Feb 1st, 2019



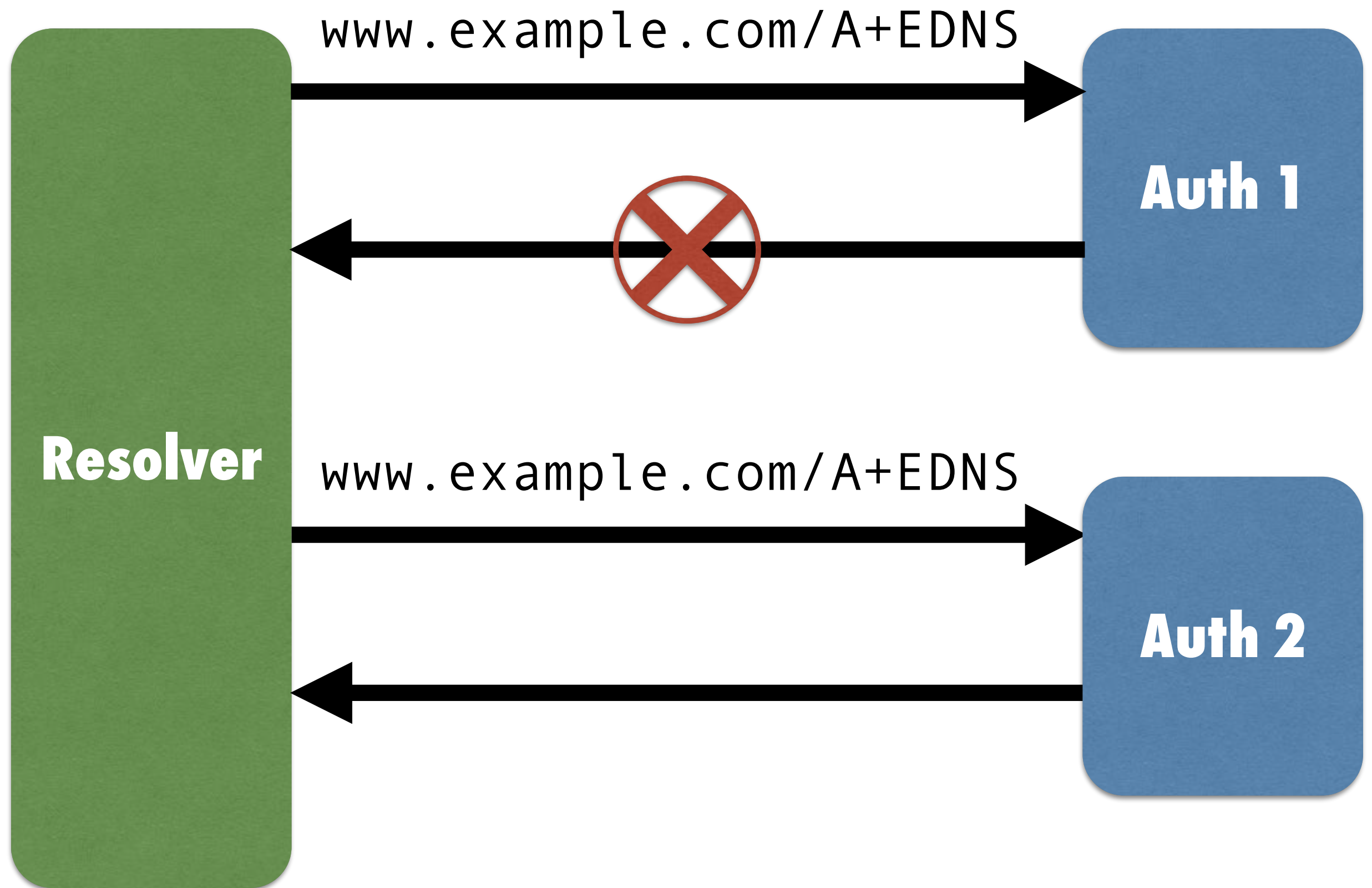
After Feb 1st, 2019



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):

Testing completed:

nlhog.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@
ednsflags=ok docookie=ok edns512tcp=ok optlist=ok

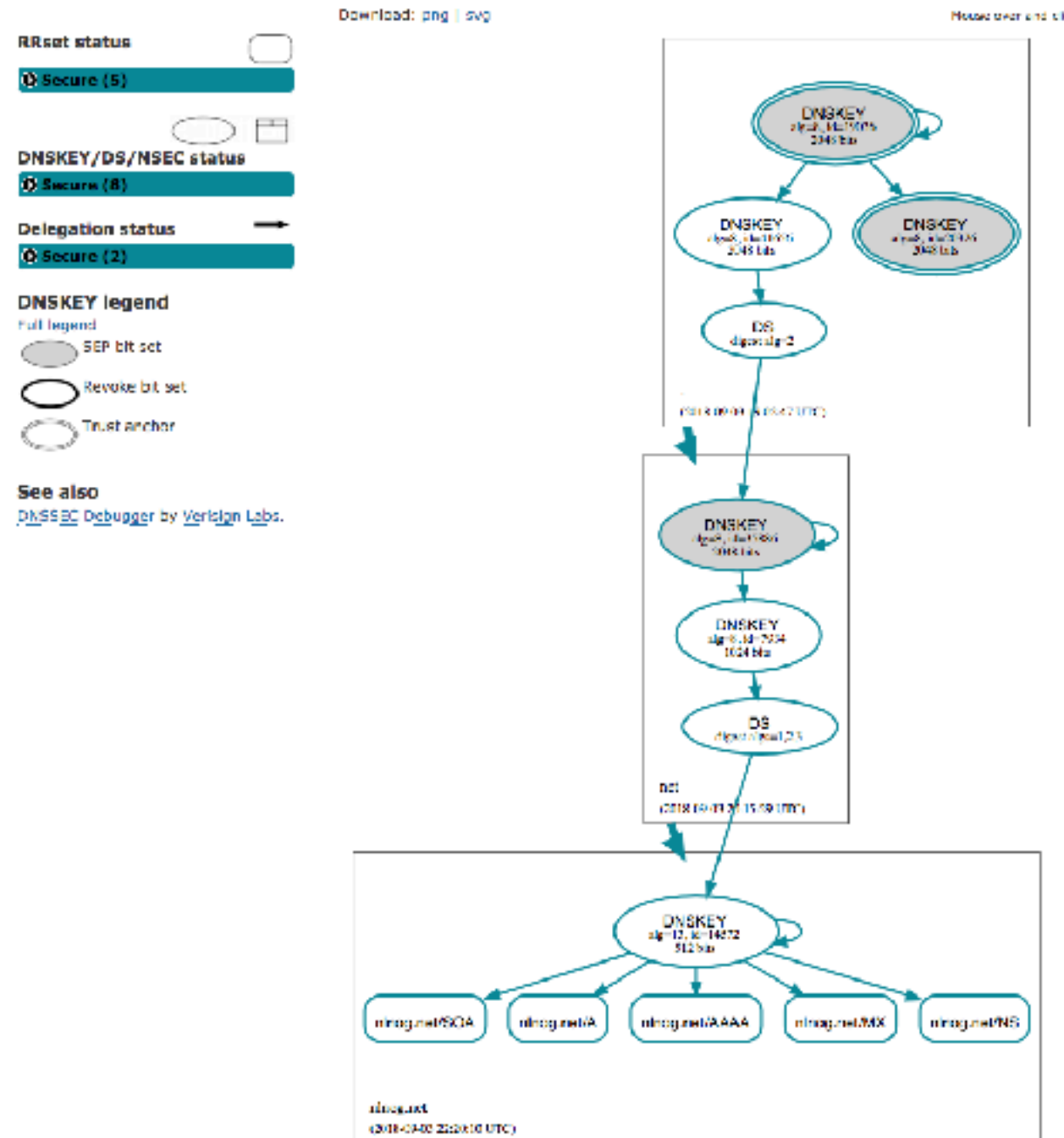
nlnog.net. @94.142.241.53 (ns1.6core.net.): dns=ok edns=ok edns1=ok edns@51
ednsflags=ok docookie=ok edns512tcp=ok optlist=ok,nsid (caladan.6core.net)
nlnog.net. @2a02:898:52:1::1 (ns1.6core.net.): dns=ok edns=ok edns1=ok edns@
ednsflags=ok docookie=ok edns512tcp=ok optlist=ok,nsid (caladan.6core.net)

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

All Ok

Are you ready?

<http://dnsviz.net/>



Spooofing



Resolver



Auth

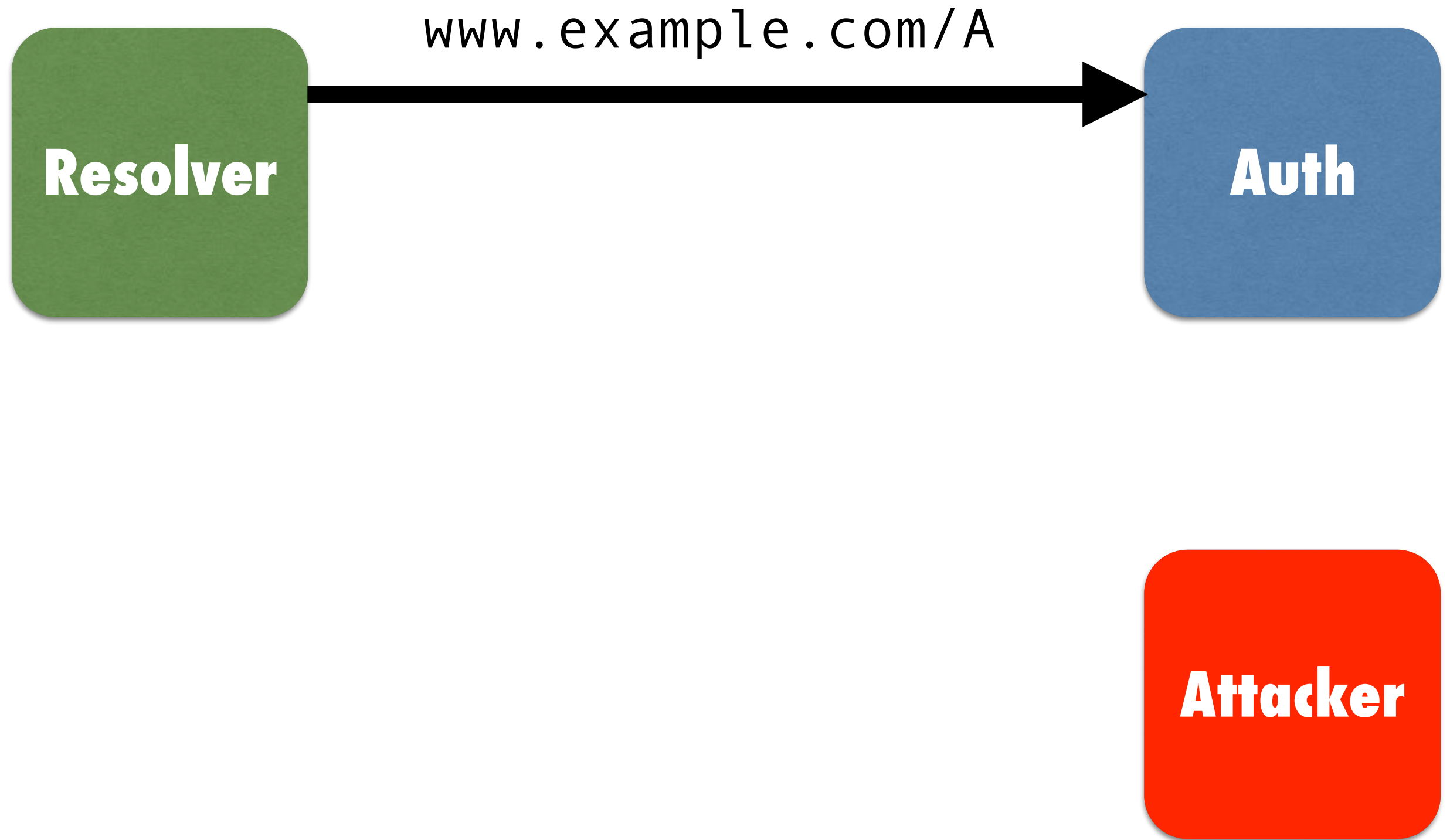
Spooofing



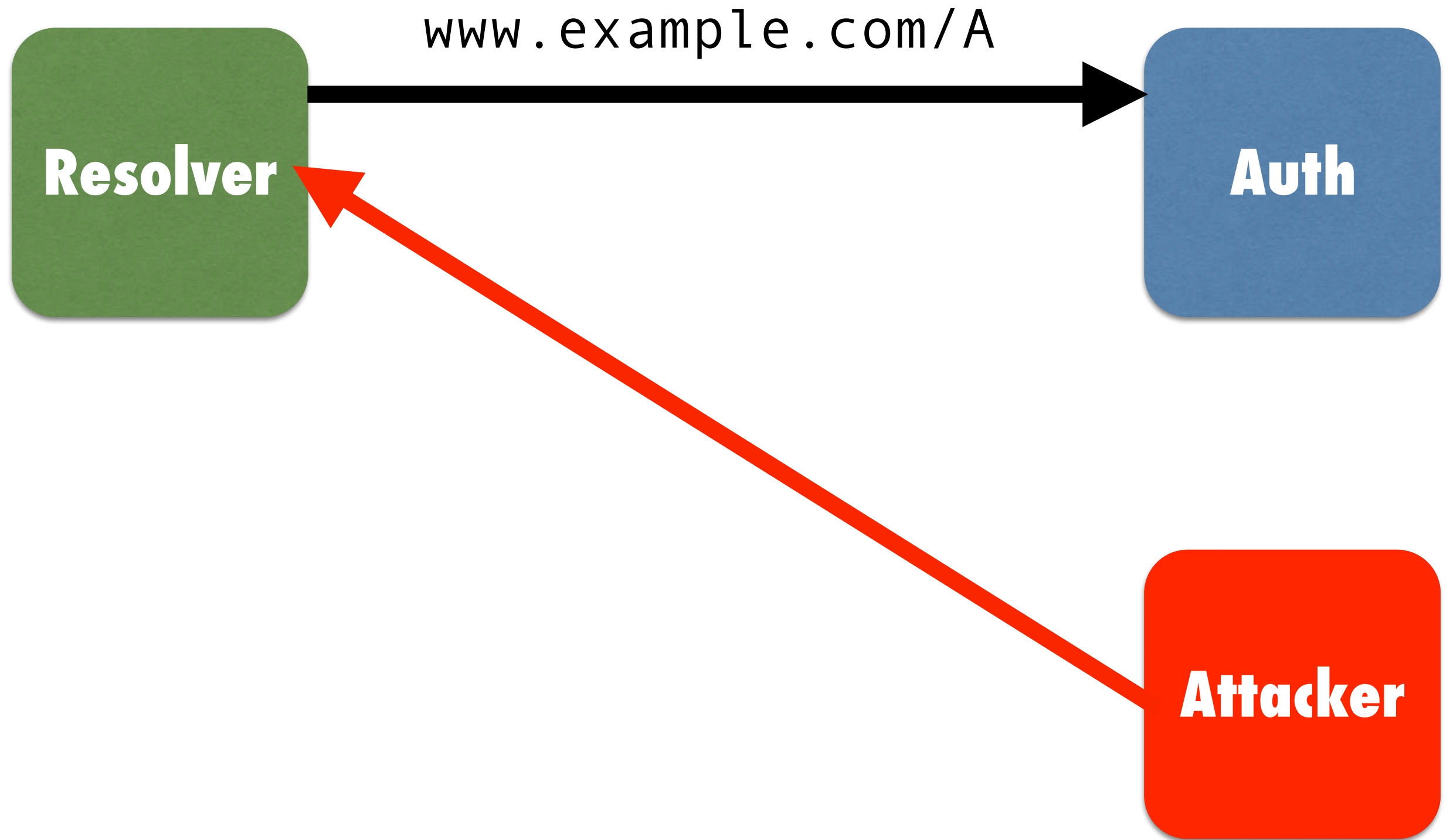
Spooofing



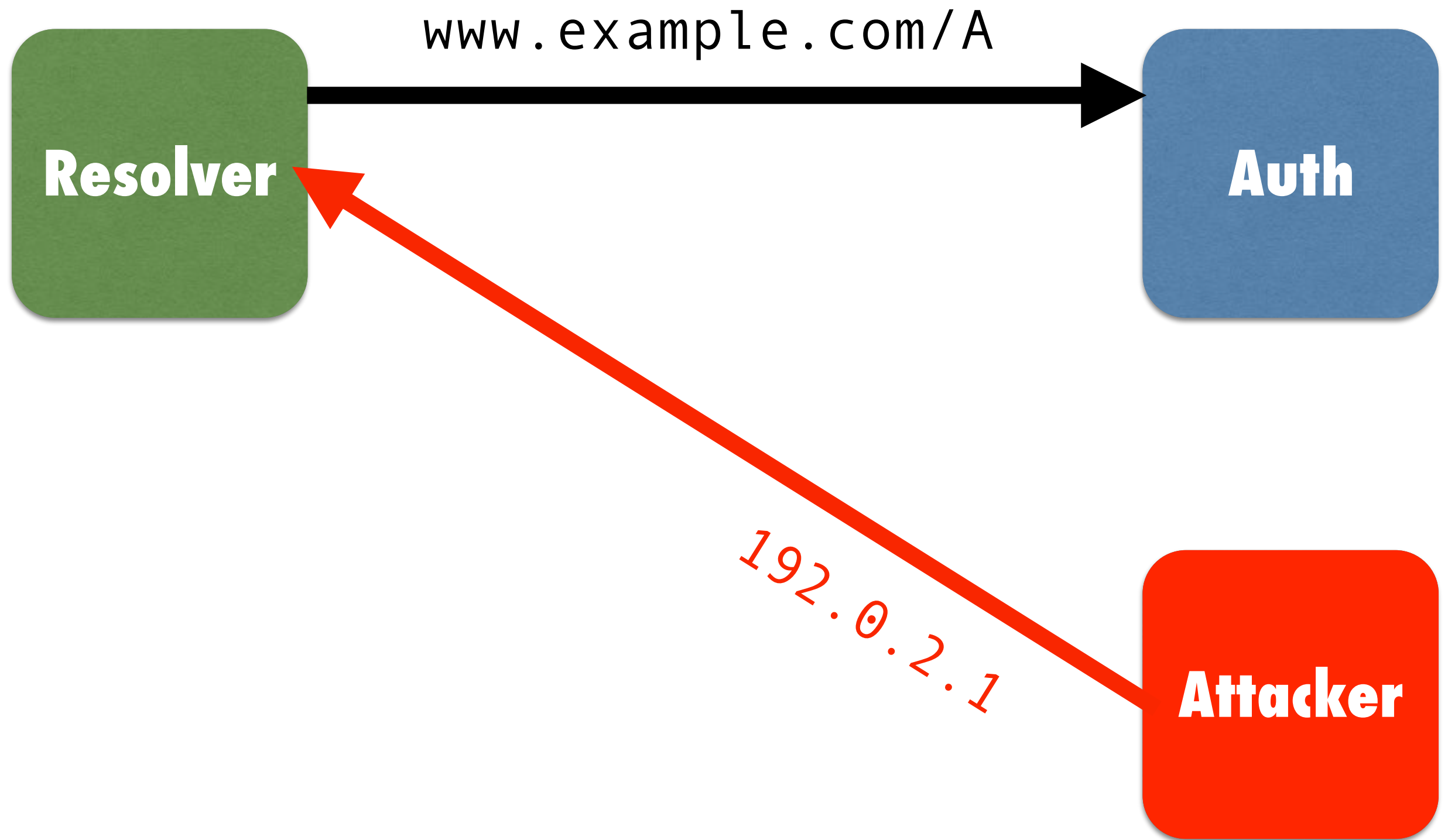
Spooofing



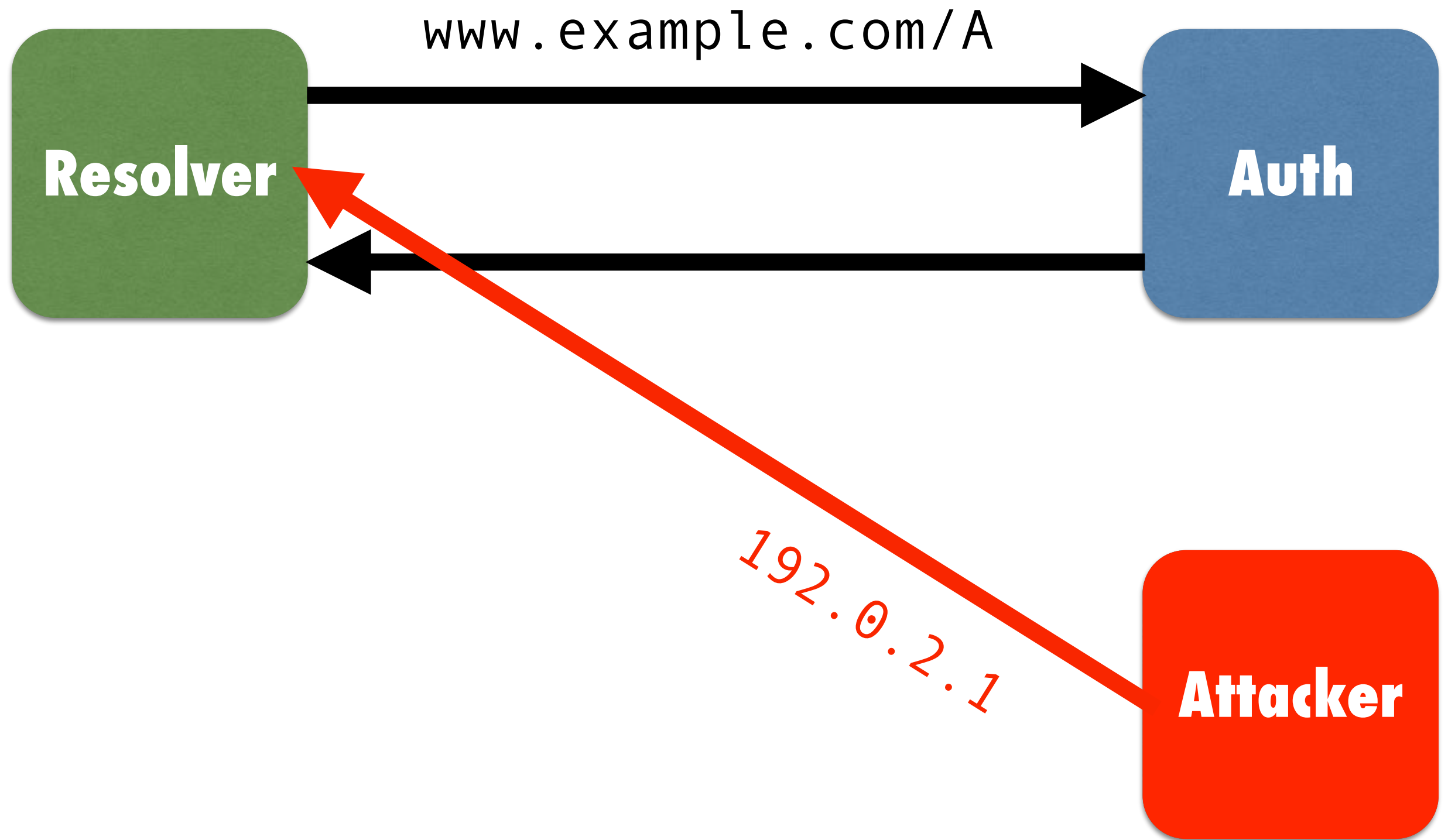
Spooofing



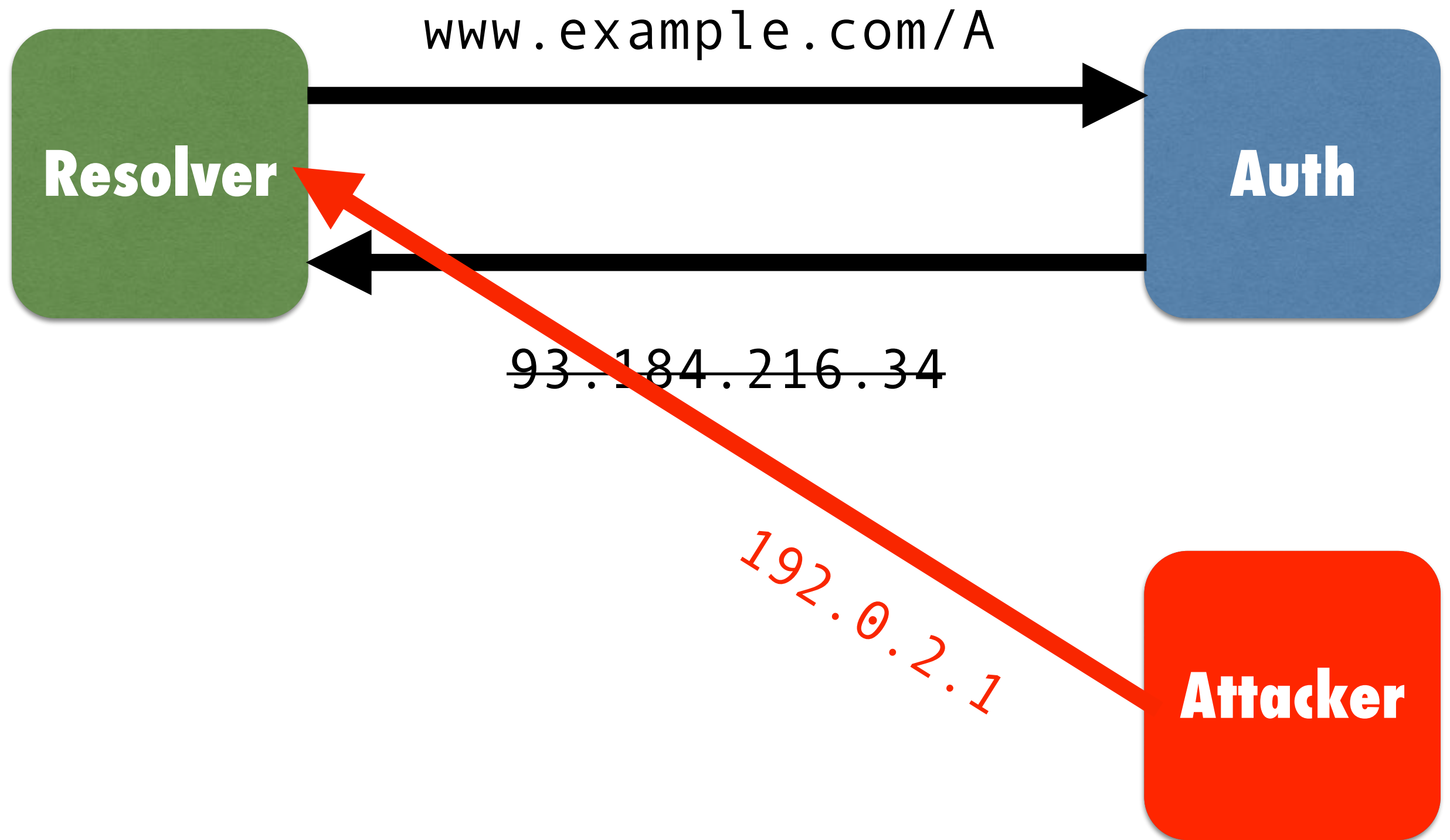
Spooofing



Spooofing



Spoofing



Questions?



Questions?



/Habбие

Questions?



/Habбие

peter.van.dijk@powerdns.com

The DNS flag day: future-proofing the DNS

Peter van Dijk
Senior Engineer

