Omniscient AS112 Servers

draft-wkumari-dnsop-omniscient-as112-00

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What is the AS112 thing anyway?

- IN-ADDR.ARPA servers get a lot of junk queries.
  - e.g for RFC1918 space.
  - What's the "right" answer for PTR for 192.168.1.9?

- AS112 servers
  - "Distributed sink" to answer these queries.
  - Authoritative replies.
  - Anycast.

So, what's the problem again?

- How do you get AS112 to handle new space?

- Easy
  - Contact all the AS112 operators, ask them to add or remove a zone.

Nope, can't do that...

- Loose collaboration.
- Many of them are unknown / unpublished.
  - Enterprises
  - ISPs
  - Folk who set one up and moved on...

Omniscient AS112 Servers

- Stupid name.
  - Don't know everything, just think that they do...
  - Clifford?

- Authoritative for everything.

- Solve the issues by simply delegating and undelegating to these servers.

- Live on new anycast space.

The zone!

```
; Empty zone for AS112 server.
;
$TTL    604800
.  IN  SOA  A.AS112.NET. hostmaster.root-servers.org. (
                                  5              ; serial number
                                  604800        ; refresh
                                  4536000       ; retry
                                  604800        ; expire
                                  604800 )      ; negative caching TTL
;
.  NS     B.AS112.NET.
.  NS     C.AS112.NET.
;
; There should be no other resource records included in this zone.
;
```

Examples.

```
~$ dig -x 192.168.1.9 @scratch-monkey.kumari.net +noquestion +noedns
+norec

  ; <<>> DiG 9.9.1-P1 <<>> -x 192.168.1.9 @scratch-monkey.kumari.net
+noquestion +noedns +norec
  ;; Got answer:
  ;; ->>HEADER<<- opcode: QUERY, status: NXDOMAIN, id: 54731
  ;; flags: qr aa; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 0

  ;; AUTHORITY SECTION:
  . 604800  IN  SOA a.as112.net. hostmaster.root-servers.org. 5 604800
4536000 604800 604800

  ;; Query time: 1 msec
  ;; SERVER: 204.194.22.8#53(204.194.22.8)
  ;; WHEN: Mon Jul 23 14:19:41 2012
  ;; MSG SIZE  rcvd: 115
```

Examples.

```
~$ dig -x 2001:0DB8::1 @scratch-monkey.kumari.net +noquestion +noedns
+norec

  ; <<>> DiG 9.9.1-P1 <<>> -x 2001:0DB8::1 @scratch-monkey.kumari.net
+noquestion +noedns +norec
  ;; Got answer:
  ;; ->>HEADER<<- opcode: QUERY, status: NXDOMAIN, id: 54732
  ;; flags: qr aa; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 0

  ;; AUTHORITY SECTION:
  . 604800  IN  SOA a.as112.net. hostmaster.root-servers.org. 5 604800
4536000 604800 604800

  ;; Query time: 1 msec
  ;; SERVER: 204.194.22.8#53(204.194.22.8)
  ;; WHEN: Mon Jul 23 14:20:11 2012
  ;; MSG SIZE  rcvd: 115
```

Examples.

```
~$ dig sinkhole.exmaple @scratch-monkey.kumari.net +noquestion +noedns
+norec

 ; <<>> DiG 9.9.1-P1 <<>> sinkhole.exmaple @scratch-monkey.kumari.net
+noquestion +noedns +norec
 ;; Got answer:
 ;; ->>HEADER<<- opcode: QUERY, status: NXDOMAIN, id: 54731
 ;; flags: qr aa; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 0

 ;; AUTHORITY SECTION:
 . 604800  IN  SOA a.as112.net. hostmaster.root-servers.org. 5 604800
4536000 604800 604800

 ;; Query time: 1 msec
 ;; SERVER: 204.194.22.8#53(204.194.22.8)
 ;; WHEN: Mon Jul 23 14:20:11 2012
 ;; MSG SIZE  rcvd: 115
```

Questions...

- .?

- .ARPA?

Questions?