DNSSEC UPDATE

- At the last DNS meeting at NANOG 51, we had roughly ~ 5% of our caching DNS traffic performing DNSSEC validation, and a couple hundred authoritative DNS zones were signed.
- We now have ~ 25% of our caching DNS traffic performing DNSSEC validation.
- There are several thousand Comcast authoritative DNS zones signed, and we are well on our way to complete the signing of all of our public facing zones by the end of this year.
- We have automated the signing and DS record insertion into our registrar which has significantly sped up our signing process.
DNSSEC UPDATE Cont.

- Below is a DNSSEC validation lookup against our caching resolvers from the NOGLAB network:

```
$ dig @75.75.75.75 www.xfinitytv.com +dnssec

; <<>> DiG 9.7.3 <<>> @75.75.75.75 www.xfinitytv.com +dnssec
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>>HEADER<<- opcode: QUERY, status: NOERROR, id: 5202
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 5, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags: do; udp: 4000
;; QUESTION SECTION:
;www.xfinitytv.com. IN A

;; ANSWER SECTION:
www.xfinitytv.com. 3375 IN RRSIG CNAME 5 2 7200 20111017204516 20111010174016 49035 xfinitytv.com. uz/o2TQX6R43xCUHGtYSTrotKkKQcnvTep/jm2WLJncGFktVlliKaZOA RHiydVydGPi362C+ICZvITTrunKUXvkg5KKKGfcYzGwcYdjngvh9AxfwDN7ElMzKuoyjfpq5sqSpRxe0Vwf74Iz2svmjuAuFlq9JzSV9dVm0MVai 4fu=
xfinitytv.com. 3375 IN A 69.252.76.77
xfinitytv.com. 3375 IN A 68.87.29.35
```

Query time: 57 msec
SERVER: 75.75.75.75#53(75.75.75.75)
WHEN: Mon Oct 10 19:27:02 2011
MSG SIZE rcvd: 438
IPv6 and DNS

• We recently launched the Comcast IPv6 Anycast caching resolvers:
  • 2001:558:FEED::1
  • 2001:558:FEED::2

• These resolvers are dual stacked caching servers that also perform DNSSEC validation.

• All of the Comcast authoritative DNS servers are dual-stacked and glue records have been updated to support end to end IPv6 lookups.

;; AUTHORITY SECTION:
comcast.net. 7200 IN NS dns103.comcast.net.
comcast.net. 7200 IN NS dns104.comcast.net.
comcast.net. 7200 IN NS dns105.comcast.net.
comcast.net. 7200 IN NS dns102.comcast.net.
comcast.net. 7200 IN NS dns101.comcast.net.

;; ADDITIONAL SECTION:
dns104.comcast.net. 7200 IN AAAA 2001:558:100a:5:68:87:68:244
dns105.comcast.net. 7200 IN AAAA 2001:558:100e:5:68:87:72:244
dns103.comcast.net. 7200 IN A 68.87.76.228
dns104.comcast.net. 7200 IN A 68.87.68.244
dns105.comcast.net. 7200 IN A 68.87.72.244
dns102.comcast.net. 7200 IN A 68.87.85.132
dns101.comcast.net. 7200 IN A 68.87.29.164
DNSSEC UPDATE Cont.

• Below is a DNSSEC validation lookup over IPv6 against our caching resolvers from the NOGLAB network:

```
$dig @2001:558:FEED::1 www.xfinitytv.com +dnssec

; <<>> DiG 9.7.3 <<>> @2001:558:FEED::1 www.xfinitytv.com +dnssec
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 35336
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 5, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags: do; udp: 4000
;; QUESTION SECTION:
;www.xfinitytv.com. IN A

;; ANSWER SECTION:
www.xfinitytv.com. 2723 IN RRSIG CNAME 5 2 7200 20111017204516 20111010174016 49035 xfinitytv.com. uz/o2TQX6R43xCUGHtYSTrotKkQcnvTep/jm2WLJncGFktVlllKaZOA RHiydVyvdGPi362C +ICZvTiTrunKUXvkg5KKGfcYzGwcYdjngvh9Axfw DN7EIMzKuoyjfpq5sqSpRxe0Vwf74l2smvjuaUFpq9JzSV9dVm0MVai 4fU= xfinitytv.com. 2723 IN A 69.252.76.77
xfinitytv.com. 2723 IN A 68.87.29.35
xfinitytv.com. 2723 IN RRSIG A 5 2 7200 20111017204516 20111010174016 49035 xfinitytv.com.
x3frBCu5kqDwoqu/gL/FbZ5EUuUSsqjLo/6F3gxqNgK7+h+sezKZmgqE JtGRuYn4qxWrZPu3pqNa2u6Vq3a1Rkqhr1g36kIrOFACyxVKY75uCmMX LgHawm9tTwnKFFMZEWpXyt0ngKQ/qPnMC/10+YqQ+6YPuh8Q60PmKH/r NHQ=

;; Query time: 57 msec
;; MSG SIZE  rcvd: 438
```
Thank You!

For more information on the Comcast DNSSEC and IPv6 deployments:
http://www.dnssec.comcast.net
http://www.comcast6.net
http://dns.comcast.net

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