

Who's Manning the L root?

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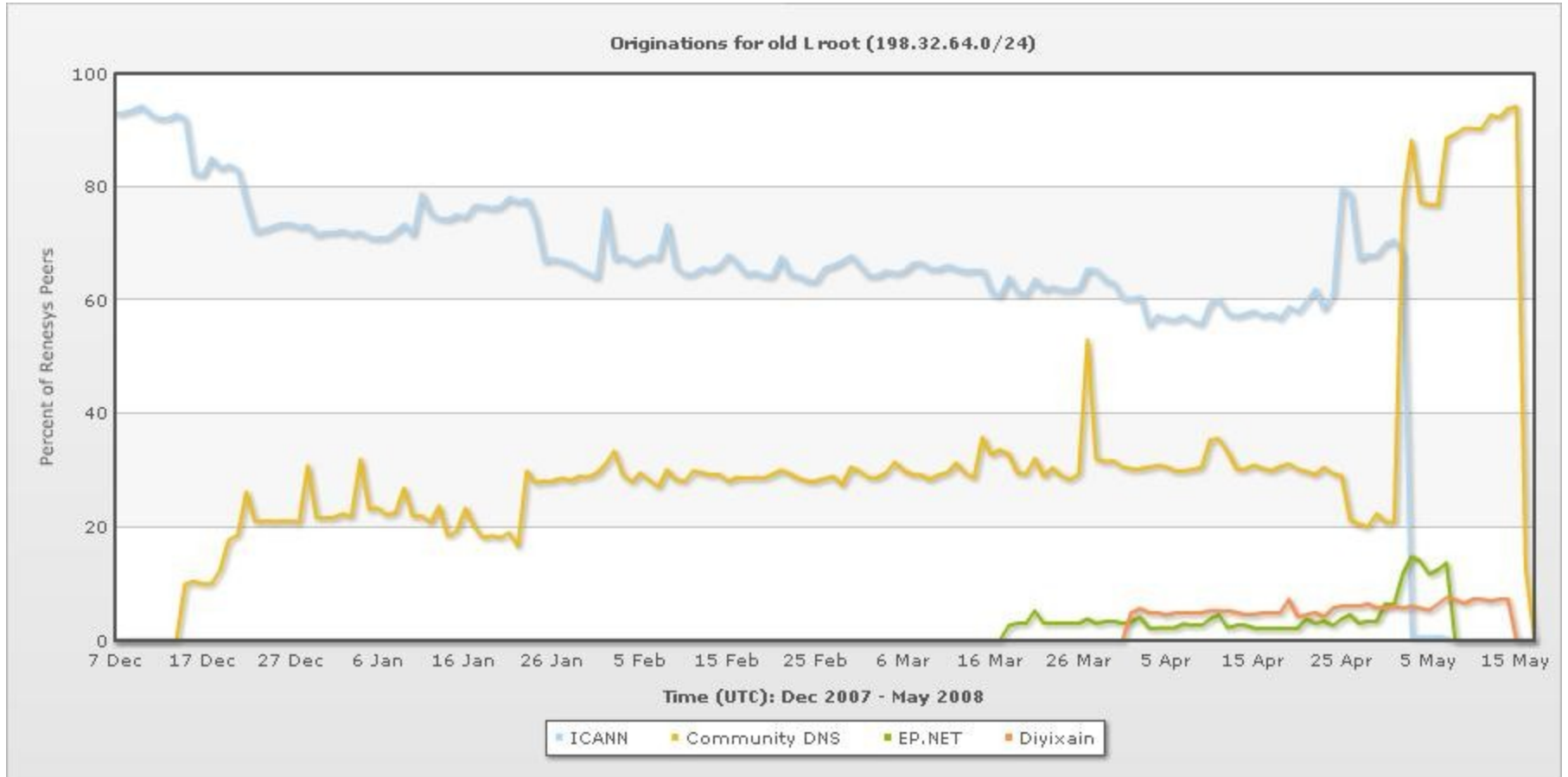
Root Name Servers

- 13 root name server IP addresses
- Named by single letters: A, B, C, ... M.
- L root is run by ICANN
 - Old IP: 198.32.64.12
 - Used from 1997 until 2007
 - Prefix registered to Bill Manning, ep.net
 - New IP: 199.7.83.42
 - Effective 1 November 2007
 - Prefix registered to ICANN

Old L Root Name Servers: 2007 – 2008

- ICANN runs the old L root for additional 6 months
- New *unauthorized* servers start appearing
 - Dec 15th – Community DNS (England)
 - Mar 18th – EP.NET (US – Bill Manning)
 - Apr 1st – Diyixian (Hong Kong)
- May 2nd – ICANN turns off its own old L root
- May 16th – All unauthorized L root servers turned off under pressure from ICANN

Timeline for old L root servers



Lots of unanswered questions

- Why was ICANN not using their own space?
 - Was it difficult to get IP space in 1997?
- Why the change after 10 years?
 - 11.7 million DNS servers worldwide (source: Infoblox)
 - How many of those do you think were updated?
- Why wasn't the space given to ICANN?
 - ARIN shows Manning has five /16s and a /22
 - This is equivalent to 1284 /24s
 - ICANN only needs a single /24 for the L root
- Why all the bogus L root servers?

Is this much ado about nothing?

- What could **you** do with a root name server?
 - Provide *updated* list of **all** the root name servers
 - Provide *updated* NS records for **all** TLDs
 - Set TTL = 0 for your answers
 - Perform recursion by default
 - Log everything
 - Censor, misdirect
- No evidence of any of this in this case
 - But the duration of the event, the potential for mayhem, the complete absence of *any* safeguards are the cause for concern

What can you do – today

- Check the ICANN web site at least yearly
- Filter announcements (see Renesys blog)
 - Don't allow more specifics
 - Filter by origin AS
- Check your cached root server IPs daily
 - Automate a comparison to a known good list
- Globally monitor root name server announcements
- Encourage someone (ICANN?) to publish a signed root name server registry
 - Then filter by authorized origins and upstreams

Thank You

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