How to build a scalable passive DNS

using a key/value data structure "designed" in 5 minutes

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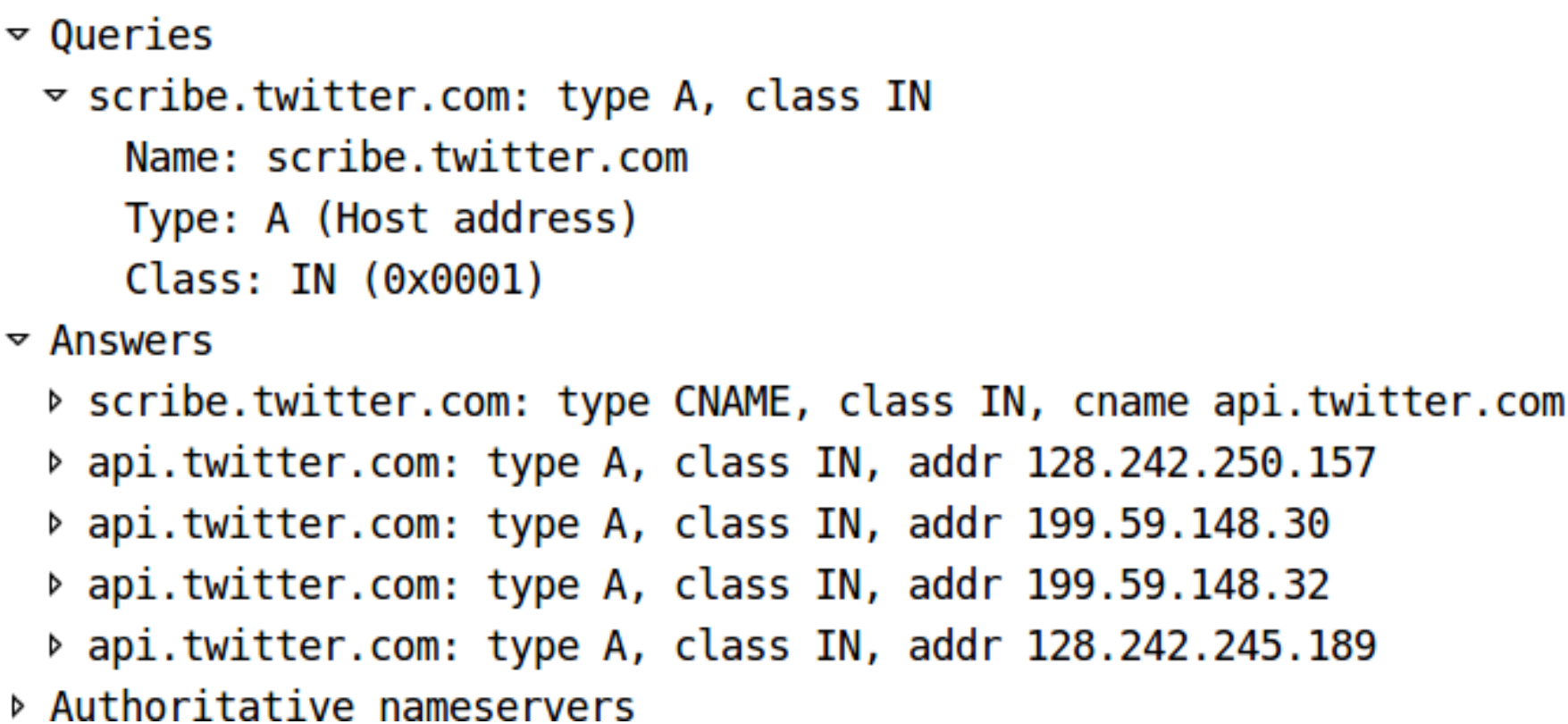
DNS and Security?

- Everyone relies on DNS on Internet and often your friendly malware
- Can we monitor passively DNS to discover malware infection or limiting its impact?
  - First passive DNS implemented in 2004 by Florian Weimer
  - Discovering of malware fast-flux domains, malicious domains/IP, hijacked domains...
  - Privacy and DNS don't mixup very well (in other words, it sucks)
  - What are the changes of a DNS record over time?

The 5 minutes "design"

- I'm lazy, the dirty job of DNS decoding is done by ISC dnscap tool
- I hate slow disk access, the database must stay in memory
- I hate large piece of code, the implementation must be modular and having less than 5K LOC ($\downarrow$ trash and rewrite cost)
- I hate those bloody legal documents, we keep only the DNS answers (no queries or source IP addresses stored)

A sample DNS answer



The 5 minutes Redis data structure