Changes in IP6.ARPA and IN-ADDR.ARPA

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Overview

- Three changes in the past year

  ▸ IANA zone management system

  ▸ Authority servers operated by RIRs and ICANN, as described in RFC5855

  ▸ DNSSEC signed

In the beginning

IP6.ARPA

- Zone authored at ICANN

- Authority service provided by some of the RIRs and ICANN

IN-ADDR.ARPA

- Zone authored at ARIN

- Authority service provided by some of the root servers

Current status

Zone management

- Both zones are managed by IANA using a system which allows direct update by the RIRs

- Updates are sent in XML form to a RESTful HTTPS service secured with certificates issued to the RIRs by ICANN

Authority service

- Two sets of servers have been deployed by the RIRs and ICANN, one for each zone

- Servers are named A through F in new IP6-SERVERS.ARPA and IN-ADDR-SERVERS.ARPA zones

DNSSEC

- All four zones are DNSSEC signed by ICANN's bump-in-the-wire signer infrastructure

- Parameters

  ‣ NSEC

  ‣ 2048 bit KSK with rollover annually

  ‣ 1024 bit ZSK with rollover every 3 months

  ‣ Signatures are SHA256 with 7 day validity

The transition

Zone management

- The effort to build the new management system began in 2009

- Designed and implemented at ICANN, tested with the cooperation of the RIRs

- System ready in early 2010

- RIRs began using the system in March 2011

IP6.ARPA

- Already authored at ICANN, transition to the new management system and authority servers was relatively straightforward

- April 2010

  ‣ DNSSEC signed

- September 2010

  ‣ DS RRSet added to ARPA

- December 2010

  ‣ Re-delegated to the new authority servers

IN-ADDR.ARPA

- Authored at ARIN, transition to the new management system and authority servers was a more involved process

- Details at http://in-addr-transition.icann.org/

IN-ADDR.ARPA (2)

- January 2011

  ‣ ICANN publishing zone to new authority servers

- February 2011

  ‣ The zone is signed

  ‣ Re-delegation to new authority servers

  ‣ ICANN stops taking updates from ARIN

- March 2011

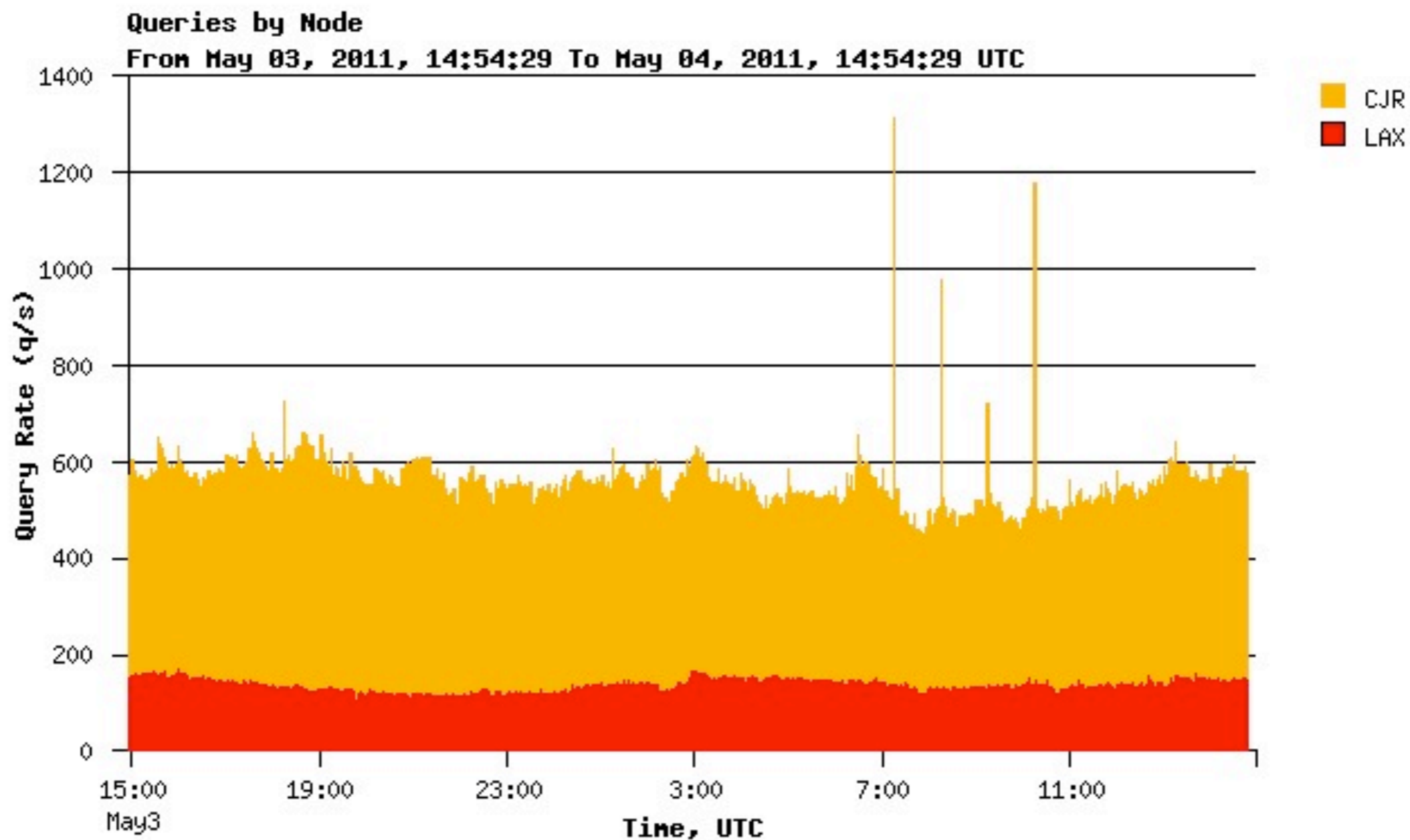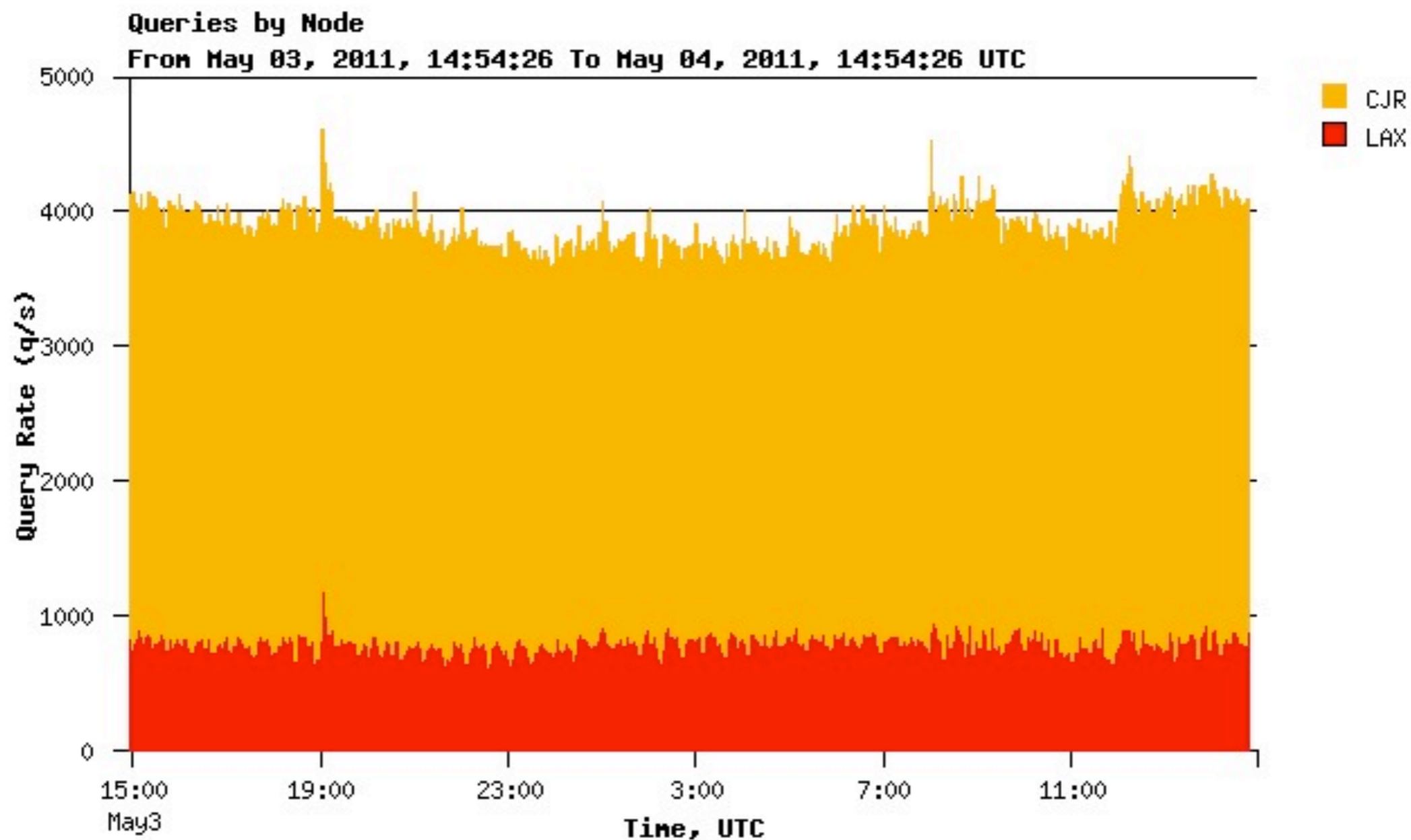 ‣ DS RRSet is added to the ARPA zone

Some stats

B

- ICANN operates B.IP6-SERVERS.ARPA and B.IN-ADDR-SERVERS.ARPA

- Dedicated hardware anycast on the east and west coast of the USA.

B.IP6-SERVERS.ARPA

B.IN-ADDR-SERVERS.ARPA

Queries by Node
From May 03, 2011, 14:54:26 To May 04, 2011, 14:54:26 UTC

Questions ?