ICANN's Monitoring System API

Focus on ccTLDs

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Agenda

- ICANN's SLAM system

- Statistics

- MoSAPI

- Zone File Access

ICANN's SLA Monitoring (SLAM) system

What is the SLAM?

- Zabbix monitoring platform with additional custom plugins and code available at: svn://svn.zabbix.com/branches/2.0.rsm/opt/zabbix

- Probe node network of ~40 probe nodes

- Designed to avoid false positives

- Consolidates data points in a rolling week basis

How it works?
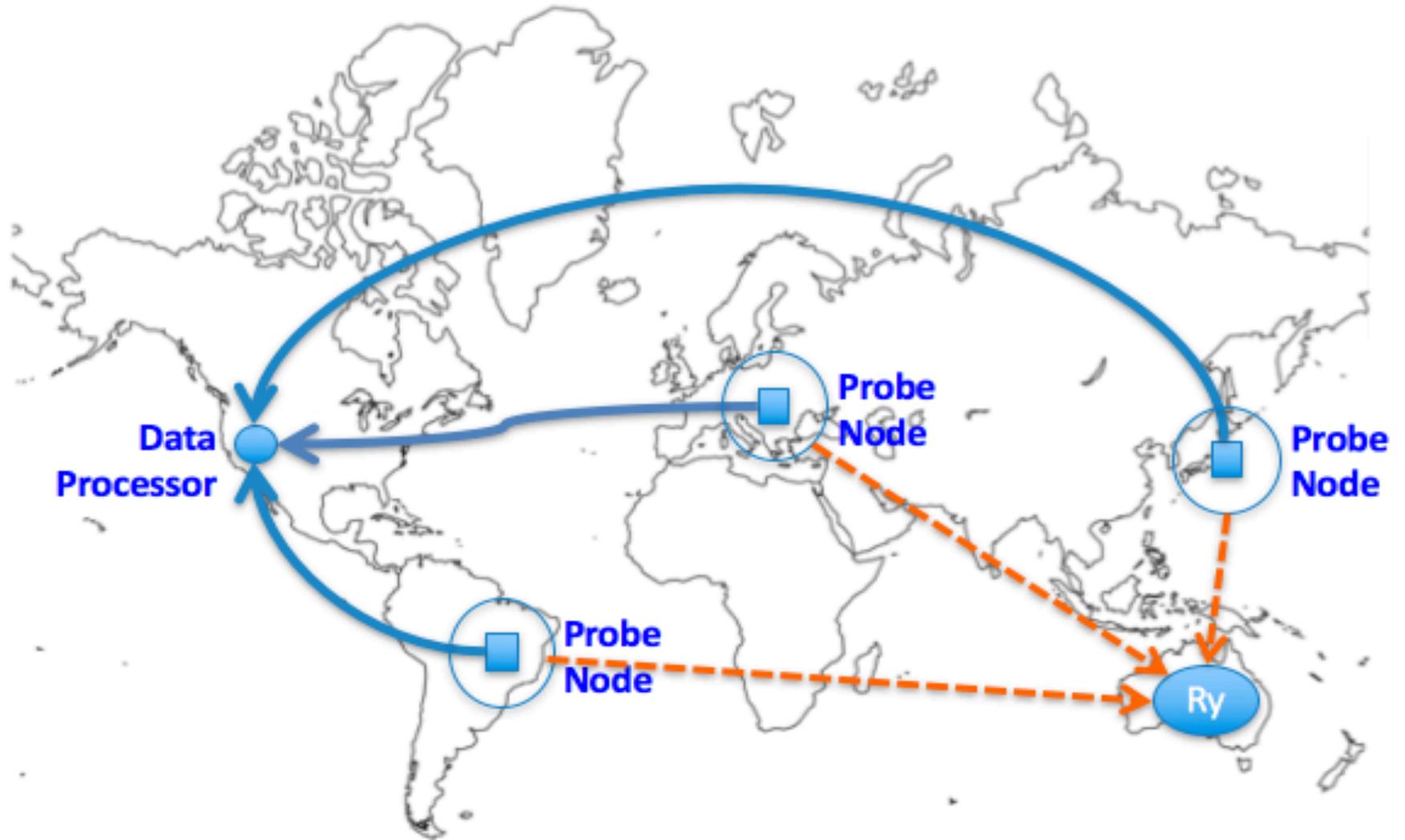
DNS test

- One non-recursive DNS query sent every minute from each active probe node:
  - for A record for QNAME `www.zz--icann-monitoring.<TLD>`
  - to every IP-address/NS pair of <TLD>

- If DNSSEC is offered:
  - NSEC/NSEC3 and the signatures are verified
  - The chain of trust is validated against the root zone KSK

- Examples of failure criteria

  o No reply

  o Invalid reply (e.g., RCODE/SERVFAIL)

  o Malformed or invalid responses

  o Broken chain of trust

 o NSEC and NSEC3 errors

Statistics

Some data points

- 273 ccTLD's DNS failures have reached 4 hours or more in a rolling week period

- 60 of 295 ccTLDs have reached 4 hours of downtime at least one time in a rolling week

- 178 of 295 (60%) ccTLDs have had at least one DNS service down event
  - 34 of 48 (70%) IDNs ccTLDs
  - 144 of 247 (58%) ASCII ccTLDs

- 5 ccTLDs are down most of the time

Note: Data from 1 October 2014 to 31 May 2017

ccTLD's DNS downtime incidents of 4+ hours
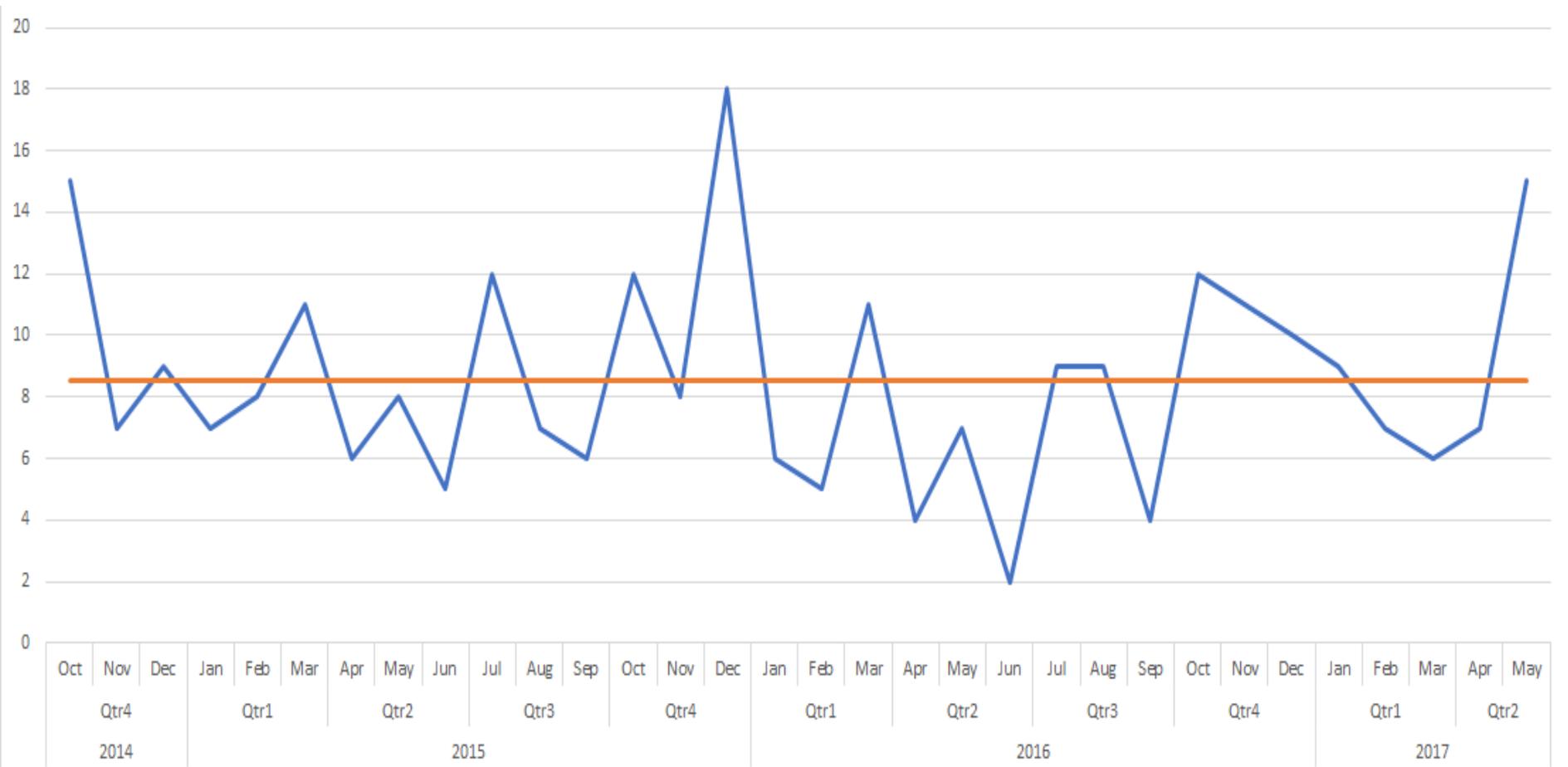
MoSAPI
ICANN's Monitoring System API

MoSAPI

- REST API methods to retrieve data collected by the SLAM in ~real-time

- In pilot mode at the moment

- A registry can only see their own performance data

MoSAPI - Credentials

- Username, Password, List of IP address blocks (IPv4 and/or IPv6)

- Current pilot only supports IPv4 transport

- Interested ccTLDs can request access through ICANN's Global Support Center at globalSupport@icann.org

- Plan to authenticate requestor relying on the ccTLD contacts in IANA

Zone File Access

Zone File Access

- ICANN is interested in periodic access to ccTLD's zone files

- Interest on statistics like:
  o DNSSEC penetration,
  o IDNs penetration,
  o Active names; and
  o Input to the DAARS

- Interested ccTLDs please contact us at globalSupport@icann.og

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