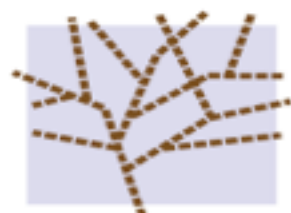


Introduction to DNS-OARC

Matthew Pounsett
OARC Board of Directors
NANOG 51, Miami FL

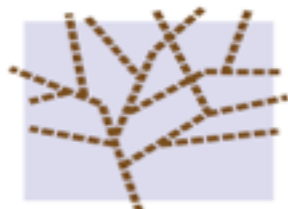


DNS-OARC

Domain Name System Operations Analysis and Research Center

What is DNS-OARC?

- The DNS Operations, Analysis and Research Center was conceived as a membership organization where DNS operators, network researchers, software implementers, and others could share data, common problems, and develop solutions in a secure environment.

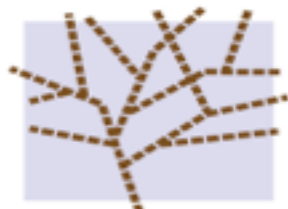


DNS-OARC

Domain Name System Operations Analysis and Research Center

Our Mission

- We seek to improve security, stability, and understanding of the Internet's DNS infrastructure
- build trust among members
- information sharing in confidence
- enable knowledge transfer
- promote research

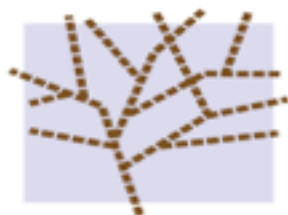


DNS-OARC

Domain Name System Operations Analysis and Research Center

DNS-OARC Background

- 501(c)3 non-profit corporation
- Funded by members subscriptions and grants
- 6 seat member-elected board provides oversight

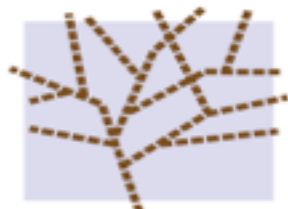


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DNS-OARC Board

- 4 member-elected directors
- 2 appointed directors
- Current board:
 - Suzanne Woolf (ISC) - President (Secretariat)
 - Matt Larson (Verisign) - Chairman (Root Operators Rep)
 - Peter Koch (DENIC)
 - Matt Pounsett (Afilias)
 - Stephane Bortzmeyer (AFNIC)
 - Ondrej Filip (CZ.NIC)



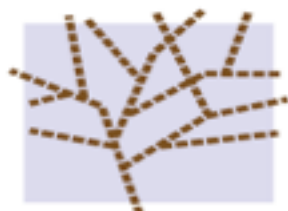
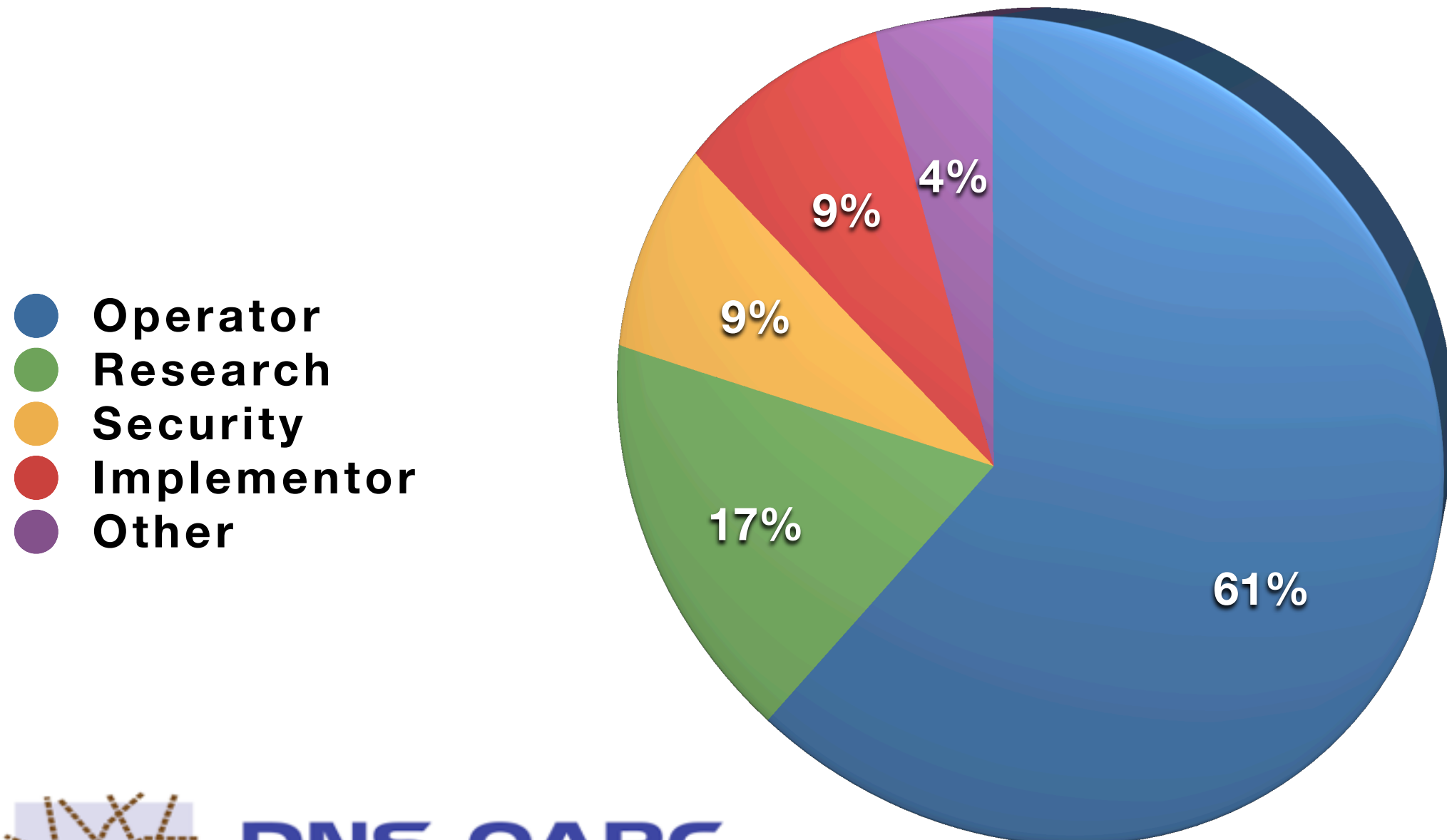
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DNS-OARC Members

Over 60 Members

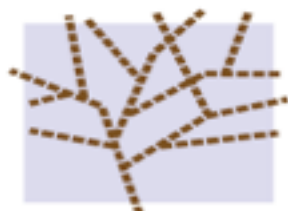
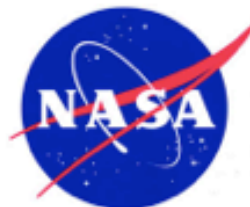
Root and Top-Level Domain (TLD) operators, government agencies, registries, registrars, hosting providers, hardware vendors, software vendors, security companies, universities, service providers.



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DNS-OARC Members



DNS-OARC

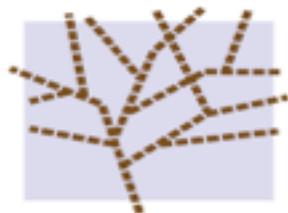
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DNS-OARC's Mandate

Operations

Analysis

Research



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Domain Name System Operations Analysis and Research Center

Operations (data collection)

- 6+ years of continuous DSC summary statistics gathered from root and major TLD servers
- 5+ years of annual 48-hour snapshots of all traffic to key servers (DITL)
- Accumulated >40TB dataset over 6+ years

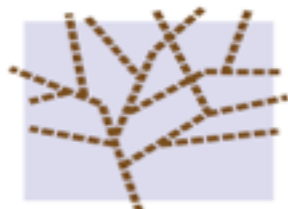


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Operations

- Do-not-probe list
 - IP address ranges not to be probed by researchers
- Open recursive resolvers list
- TLD zone file repository
- 10+ years of root zone history

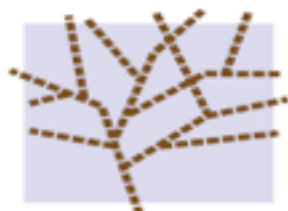


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Operations (tools)

- UDP source port randomization test (Kaminsky)
- DNS reply size tester (DNSSEC)
- DNSSEC lookaside validation (DLV) test zones
- DNS data traffic capturing and decoding tools
- Quality and conformance testing tools
- DNS server fingerprinting tool

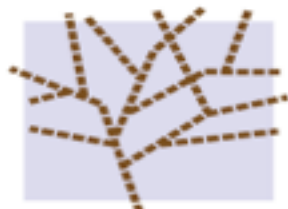


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Operations (communication)

- dns-operations mailing list (open) - 1250 subscribers
- dns-operations jabber room (members only) - 182 active accounts
- secure-ops mailing list (trusted, vetted) - realtime operational matters

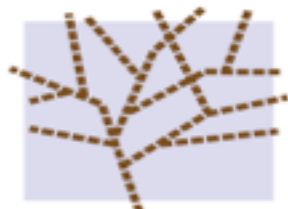


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Operations (communication)

- Semi-annual workshops
 - combination of open and closed meetings
 - often in partnership with other conferences



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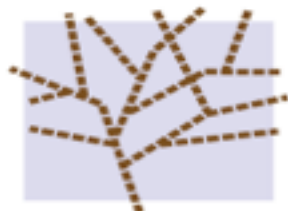
Domain Name System Operations Analysis and Research Center

DNS-OARC's Mandate

Operations

Analysis

Research



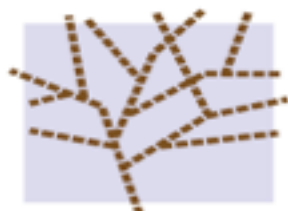
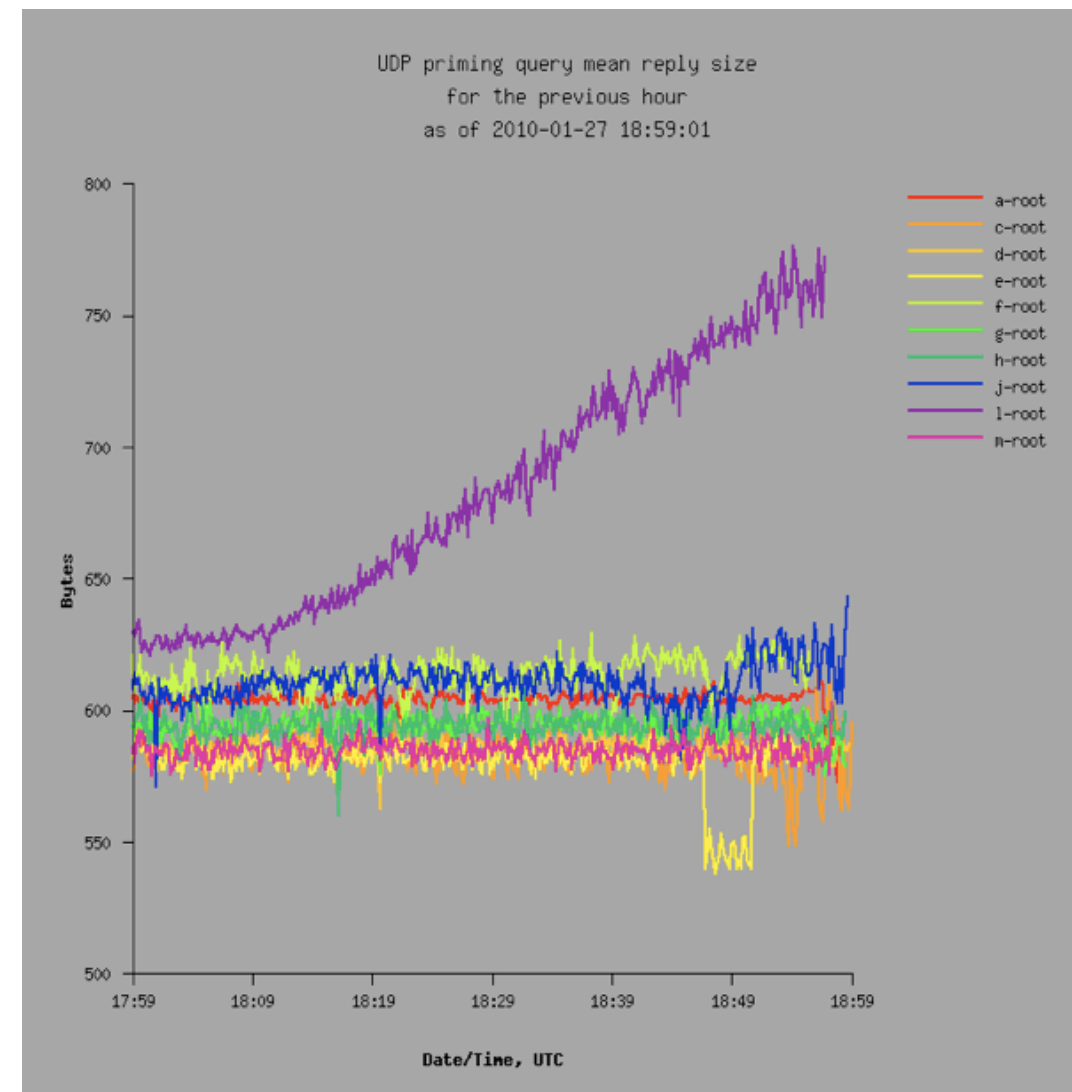
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Analysis & Research (DNSSEC/DURZ)

- ICANN-funded DURZ report to measure and model the impact of DNSSEC signing of the root zone
- Final report to be published soon

<https://www.dns-oarc.net/node/240>

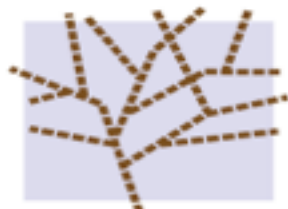


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Analysis & Research (DITL)

- 1.7TB of compressed pcap data collected in most recent DITL (May 25th, 2010)
- 10 root servers participated
 - A, C, D, E, F, I, J, K, L, M
- Over 270 nodes submitted data

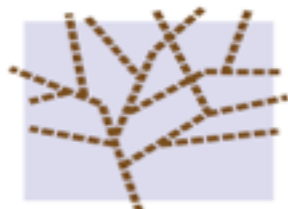


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DNS-CERT

- Position paper submitted to ICANN available at <https://www.dns-oarc.net/oarc/dns-cert>
- Continuing discussions with members and community about what a DNS CERT might be, and how OARC might participate
- Always looking for input and comments!

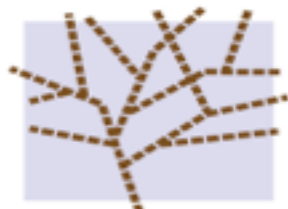


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Planned for 2011

- Measurement:
 - participation in IPv6 day (DITL?)
 - in-addr.arpa re-delegation
 - DITL 2011
- New DSC development
- More outreach, particularly in security fields

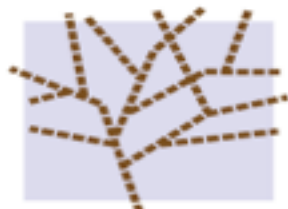


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Next Workshop

- San Francisco, March 13 & 14, 2011
- Partnered with the ccNSO at ICANN 40
- More information and registration at <https://www.dns-oarc.net/oarc/workshop-201103>



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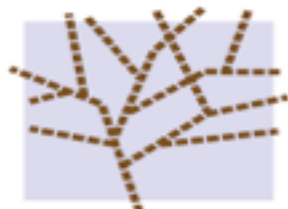
Questions?

Contact Us:

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