DNS-OARC

Operational Best Practices

DNS-OARC

Domain Name System Operations Analysis and Research Center

That 'O' in OARC…

DNS
Operations
Analysis
&
Research
Center

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LAC
DOMAIN NAMES
Week

Who participates in OARC

- Software developers

- Researchers

- Operators

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Why OARC ?

- OARC is the proving ground for new ideas and improvements to the DNS

- Some of those ideas might have been formed - and the standards written - in other forums

- Those forums aren't attended by Operators – NOGs are

- OARC is where the hard questions are asked, and the research to answer them is presented

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Will it ~~blend~~ resolve?

Operations

- Many talks at OARC on the impact of protocol and software design choices on the stability and availability of the DNS

- Outcome: improvements to the protocol, the implementations, and the ways to configure & deploy them

- Some of these improvements and preventive measures take the form of recommendations
  - Some are de-facto standard, or policy driven
  - Some are guided by measurements and operational constraints

Recommendations vs Best Practices

- Those recommendations which enjoy sufficient consensus are promoted as Best Practices

  … a technique or methodology that, through **experience** and **research**, has proven to reliably lead to good outcomes if followed

- Best Practices, over time, turn into default configuration values or behaviours, or into requirements (policy)

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Who decides ?

- Who decides what makes a Best Practice ?
  - Operators and software developers, through experimentation and output from research
  - In summary: the Community

- Where is this consensus made ?
  - Operators Group meetings
  - Discussion lists & Online forums

- Sometimes, a coordinated action is required:
  - https://www.dnsflagday.net/2020/

Best Practice Initiatives

- Routing: Mutually Agreed Norms for Routing Security (MANRS)
  - https://manrs.org/

- DNS: Knowledge-Sharing and Instantiating Norms for DNS and Naming Security.
  - https://kindns.org/
  - Disclaimer: I was involved with KINDNS

OARC's role

- OARC is the place where these discussions are happening:
  - dns-operations mailing list
  - chat.dns-oarc.net MatterMost server
  - OARC meetings

- Shouldn't OARC be the place to evaluate DNS Best Practices?
  - Review, refine or retire existing BCPs
  - Draw the line between *desirable* and *recommended* practices
    - Not everyone agrees Anycasting and software diversity should be practiced
  - Draw the line between systems & network and DNS BCPs

OARC's role

- Promote discussions around this
  - MatterMost channel ?

- Support and collaborate with initiatives to measure the effect of BCPs
  - Do they have the positive outcomes expected ?
  - What metrics do we measure/collect ?
  - From where ?
  - By whom ?

Outcomes

- Goals

  - Review, validate and augment existing BCP initiatives (KINDNS)
  - Promote BCPs, to improve security and stability of the DNS
  - Raise awareness of the importance of the DNS in general

Questions ?